Focused Public Investment Plan

Infrastructure Cost Report

Clark County Department of Community Development
with
David Evans and Associates, Inc.
Parsons Brinckerhoff Quade & Douglas, Inc.
Henderson,Young and Company

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Focused Public Investment Areas

Prepared by:

Clark County Department of Community Development
Long Range Planning
1300 Franklin Street
P.O. Box 9810
Vancouver, WA 98666
Project Manager: Derek Chisholm

David Evans and Associates, Inc.
2100 SW River Parkway
Portland, OR 97201
Project Manager:Gillian Zacharias

Parsons Brinckerhoff Quade & Douglas, Inc.
400 SW Sixth Avenue, Suite 802
Portland, OR 97204

Henderson, Young & Company
8060 165th Avenue NE, #220
Redmond, WA 98052-3935

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FOCUSED PUBLIC INVESTMENT PLANNING

INTRODUCTION

Since the start of the current comprehensive plan update, county leaders have made a commitment to focus on economic development and balancing jobs and housing in the county. Their vision is one of the county as a regional economic powerhouse in its own right, providing a better balance of employmentto housing for residents. County leadership is committed to encouraging economic development, and particularly the creation of family-wage jobs.

It is clear that existing revenue streams may not be sufficient to keep up with demands for public services and facilities. Transportation concurrency policy has led to the delay of projects in some corridors; park acquisition and improvements are not keeping up with population and employment growth; and schools heavily rely on portable facilities.

In the past, Clark County has dispersed its capital improvement expenditures throughout the county, providing partial solutions in many areas, but not complete solutions within priority areas.

Given the limited resources available for infrastructure, the County wants a more strategic approach to the investment of public funds to achieve its goals. The county is considering focusing capital improvements for a variety of services in specific areas, rather than implementing capital improvements more broadly, to provide "fully served" land where all public facilities meet or exceed standards. Experience in other communities shows that the market responds well to "shovel-ready" sites at which development can begin as soon as plans and approvals are completed.

As a part of the update of Clark County's *20-Year Comprehensive Growth Management Plan*, the county identified potential investment areas and developed conceptual plans and cost estimates for making these areas ready to build. Full build-out of all the areas will take many years, and elected officials will determine the timing for improvements.

This report explains the process used to identify potential investment areas, estimates the cost of public infrastructure investment to support development, and determines the potential benefits in terms of the number of acres and jobs that could be accommodated. With total estimated public infrastructure costs and capacity for jobs by acre, a "cost-per-job" can be calculated for each FPIA, thereby revealing the relative efficiency of each dollar of public investment. The information will be used to set priorities for investment among the areas and to design a land use plan with urban growth areas that support employment development.

PROCESS: IDENTIFYING POTENTIAL INVESTMENT AREAS

Clark County made a coordinated effort to encourage businesses to locate within the county over the past decade. Much work was done by county staff, the cities, and the Columbia River Economic Development Council (CREDC) to identify and evaluate existing areas with the potential to support industrial, office, and commercial development. The results of these efforts were used to identify seventeen potential investment areas (see Figure 1 in Appendix). These areas were further evaluated, using information from the Clark County Department of Assessment and GIS to:

- Identify vacant and underutilized land in each area;
- Understand the readiness of the land for development (prime, or ready to build; secondary, or missing one or more essential services; and tertiary, or having significant constraints on development);
- Identify the existing transportation network, its condition and capacity;
- Identify the existing water service network to the area and its capacity;

- Identify the existing sanitary sewer service to the area and its capacity;
- Identify existing fire and emergency services to the area and any gaps in coverage;
- Identify environmental constraints on development.

The GIS data were field-checked for accuracy and adjustments to the data were made, where necessary. Each service provider was also contacted to verify the accuracy of infrastructure information.

The potential employment capacity of each area was estimated based on the designated land use. Industrial land was assumed to develop at 9 employees per acre, commercial land at 12 employees per acre, and office/business park at 20 employees per acre. An exception was downtown Vancouver, which was assumed to redevelop to 20 employees per acre, regardless of the land use.

Employment capacity estimates reflect several assumptions:

- the full development of vacant land currently designated for industrial or commercial use;
- the redevelopment of underutilized parcels to the maximum allowed by current industrial or commercial zoning;
- and the potential job capacity of vacant land in the focus area that is not currently designated for industrial use.

For this evaluation, meetings were held with county and city staff familiar with water quality, wetlands, and endangered species issues of each area. The meetings were used to evaluate the environmental characteristics of each area and to determine the potential for a regional solution to important issues that would maximize the development potential of each area. Parcels with a significant portion of environmentally constrained land (wetlands, floodplain, steep slopes) will be developed if the size, location, and cost are right, based on the observations of Clark County's *Plan Monitoring Report*.

Infrastructure Concepts

Water, sewer, and transportation master plans for each service provider were reviewed, particularly the planned capital improvements. City of Vancouver measurements of water demand and sewage generated by industrial and commercial uses were used to project need for future uses within each FPIA. Consulting engineers developed a conceptual plan for extending sewer, water, and arterial or collector roads to serve the area. The work was done at a planning level and intended to estimate the cost of extending service to focused public investment areas (FPIAs). No effort was made, even at the conceptual level, to design water or sewer lines or roads.

In districts with enumerated deficiencies, specific projects were listed to rectify the deficiencies. Hazel Dell, Ridgefield, Battle Ground, Camas, and Washougal all have specific projects that can be correlated to specific focus areas. The City of Vancouver and Clark Public Utilities (CPU) do not. Assumptions about which existing lines would be extended were checked with each service provider when the conceptual plans and cost estimates were reviewed with them. Cost estimates are based on information provided by the districts about recent construction costs. Because service providers extend their utility grid to an entire area, the conceptual plans assume service to all lots in the area, regardless of designated use.

In the areas not yet served by sewers or water lines, a basic utility grid was projected. The intent of this grid was to ensure that development would have to extend lines no more than one-quarter of a mile. An 8-inch sewer line and a 12-inch water line were selected as the basic utility package for each parcel. To have the land "shovel ready" for development, the basic utility packages have been included in the estimates listed in this report.

The baseline conceptual road network was based on the transportation system plans of the various jurisdictions and the 2023 Metropolitan Transportation Plan (MTP). The Southwest Washington Regional Transportation Council (RTC) regional travel demand model includes the conceptual roadway network . The analysis outputs were examined to identify additional needs including roadway widenings, roadway extensions, and new corridors.

CPU analyzed the cost of extending electrical service to each area. Access to clean, high-quality electricity is particularly important for certain types of industry, such as high-technology and bio-technology firms, which CREDC has identified as desirable industries to attract to the county. These industries can require uninterrupted power service that is available only in areas with looped or redundant systems. Some potential areas are within this grid now and some are not.

Cost Estimates

For water and sewer service in the Hazel Dell, Ridgefield, and Battle Ground service areas, specific project costs were used to estimate the required investment in collection systems for the proposed FPIAs. For areas with pre-existing collection systems and treatment plants, connection fees, also known as system development fees, were used to estimate the investment that would have to be paid back to connect to the system. The result is a mosaic of costs that are as closely linked to local reality as is possible in a planning study.

Determining water supply costs for an FPIA is dependent on estimating the volume of water that will be needed to support projected commercial and industrial development. A wide range of values is often used for estimating the amount of water that new development will use. For this analysis, a water usage rate of 35 gallons per employee per day was assumed, and this is consistent with usage patterns measured within Vancouver industrial areas. At 10 employees per acre, this results in the use of 350 gallons of water per day per industrial acre.

Further, for some FPIAs, connection charges were calculated based on the equivalent residential unit (ERU), the standard residential unit of measurement, and a multiplier of 1.5 was used to account for water usage in excess of 280 gallons. Some water supply systems, such as Camas and Washougal, treat industrial and commercial water users very differently from residential users, assigning connection fees about 5 times that of residential customers. Since these fee structures were specifically designed for commercial and industrial users, a 1.5 multiplier was not used for these FPIAs.

The cost of constructing 12-inch water lines was assumed to be $65 per linear foot. The cost of water storage assumed to be needed to meet plan requirements was projected at $1 per gallon. The same cost per linear foot for water and sewer was used no matter where the line would be located, because the utilities indicated that construction of new lines in developed areas is not significantly more expensive than in undeveloped areas.

The cost of sewer construction, including an allowance for manholes, was assumed to be $100 per foot. The cost of a theoretical general sewer pump station was estimated as $250,000. However, where pump stations were planned, the cost from the utility capital improvements program was used. Some of the areas use Septic Tank Effluent Pump (STEP) systems (Camas and Hazel Dell), which are less expensive per linear foot ($65), and these costs were used for those areas where the utility indicated STEP systems would likely be used.

The cost of road extensions and upgrades was based on information from each jurisdiction about recent construction costs for similar facilities. Roadway costs were determined using a general per mile cost estimate. The estimate assumes construction of a typical cross section, along with additional significant cost items such as bridge structures. Identified improvements include the number of needed lanes and an estimated improvement length. The general per mile cost estimate was applied to most projects. Some

cost estimates were pulled from other planning projects in the region (e.g., Ridgefield CFP analysis, I-5 Trade and Transportation Partnership Study, WSDOT programming estimates, etc.). Table 37 at the end of the document lists all of the needed transportation projects by FPIA.

A per acre cost for constructing stormwater management facilities for roads built on different types of soils was obtained by county staff from recent construction projects and applied to the necessary extensions across areas with similar characteristics. This resulted in a per-acre cost of either $25,000 for areas with fewer environmental constraints or $49,000 for areas with relatively more constraints. In addition, County staff identified areas with drainage problems dating to the flood events of 1995-1997 and proposed typical mitigation projects and costs.

To determine total costs for FPIAs, the amount (in acres) of vacant commercial and industrial land was multiplied by the per acre cost. The amount of vacant "other" and redevelopable land was multiplied by the per acre cost, but reduced by a factor of from 10 percent to 50 percent to account for existing facilities that may already be in place. FPIAs with predominantly rural residential uses received a relatively smaller reduction while urban underdeveloped industrial or commercial areas received a relatively higher reduction.

The need for public investments for fire protection and emergency medical services was determined by identifying areas that are not within five minutes drive time from a fire station. The five-minute drive time threshold represents an acceptable level of service for public safety response to fire or medical emergencies. The traffic model was used to determine drive times from existing fire stations to each potential investment area. Specific traffic analysis areas that were more than five minutes drive time were mapped and the acreage was quantified. The fire services providers reviewed the maps and identified strategies to achieve 5-minute response times throughout each potential investment area. Some areas can be served by expanding or extending roads between existing fire stations and specific potential investment areas. Fire service providers prepared cost estimates for stations and apparatus. Cost estimates for road improvements were prepared in the same manner as for other transportation improvements.

Costs for extending electrical service to new commercial and industrial development within FPIAs was largely based on the identified need for new substations ($2 million per substation), transmission lines ($250,000 per mile), and distribution lines ($150,000 per mile).

FOCUSED PUBLIC INVESTMENT AREA PROFILES

The results of the analysis of the FPIAs are presented in individual sections in alphabetical order following this introductory section. Maps of each FPIA are included in an appendix at the end of the document. Each FPIA section contains:

- a general description of the area's characteristics,
- a table showing job capacity based on the amount of vacant commercial, industrial and "other" (generally residential) land and the amount of redevelopable land within an FPIA,
- a discussion of the infrastructure investments needed for sewer, water, stormwater and environmental mitigation, transportation improvements, fire protection and emergency services, and electrical service to fully serve the FPIA, and
- a summary of costs section with a table showing the estimated total costs for improvements.

The job capacity table distinguishes the potential job capacity from vacant "other" land and redevelopable land. The distinction is important because both types of land could take longer to develop compared to land that is vacant and already zoned for industrial and commercial uses.

The resulting costs per job in the FPIA are presented, based on development of: 1) vacant commercial and industrial land, 2) vacant commercial and industrial plus redevelopable land, and 3) all vacant and redevelopable land (i.e., includes "other" uses (e.g., residential) that could be designated for commercial

and industrial uses). A summary table of cost-per-job is presented at the end of the *Results* section, below.

RESULTS

It appears that water and sewer utilities will not be a major constraint on growth in or near the designated urban growth and urban reserve areas in the county. The same is true for electrical service. The county enjoys this generally favorable position of available capacity in large part because many utilities have recently built electrical service, water supply, and sewage treatment plants in response to the growth forecasts of the 1994 Clark County *20-Year Comprehensive Growth Management Plan*, and now await the connections that will recoup the cost of those investments. If growth does not occur, the utility providers may find it difficult to pay for those facilities.

Issues

Simultaneous development in nearby FPIAs. The proximity of FPIAs and the potential for simultaneous development may create a cumulative critical demand for services. The projected needs were calculated for each FPIA in isolation from demand in other FPIAs, but in some cases it is clear that the system demands for proximate FPIAs could boost demand to a critical thresholds and raise costs considerably. One prominent example is sewer service. The Salmon Creek Wastewater Treatment Plant serves the Hazel Dell Sewer District, as well as the Battle Ground, Orchards, Cedars, and Meadow Glade areas. The treatment plant and the interceptor sewer are not sized for the amount of growth anticipated in both the Discovery Corridor and the Battle Ground focused public investment areas. Either the interceptor sewer and the plant would have to be expanded ($40 million), or the City of Battle Ground would have to construct its own sewage treatment plant ($10 million plus the cost of treated effluent disposal), or an agreement reached with the City of Vancouver to shift some of the sewage treatment burden to one or more of their plants that have some available capacity if all of these areas are to be served adequately. The same issue could apply to provision of electricity. If two FPIAs in close proximity are developed, additional substations (not reflected in the estimated costs for individual FPIAs) may be required.

Multiple service providers. Multiple service providers in individual FPIAs will create additional costs in implementing infrastructure improvements. Table 1 shows the service providers for each FPIA. Five FPIAs are served by two water providers and one (Fisher Swale) is served by three providers. Eight FPIAs have more than one sewer provider. Of those eight, six FPIAs contain areas that are not within any sewer service district. There would be staff time required to work out which agency would best serve these areas. In addition, only three FPIAs have roads under one agency's jurisdiction. The costs of having multiple providers involved in improvements are bound up not only in staff time to research and negotiate agreements but also in terms of implementing adjusted standards into existing plans and determining the impacts on existing and planned facilities. These costs are not assessed in this analysis but they exist and should be considered in prioritizing investment areas by cost and by timing for development.

FPIAs outside of proposed urban growth areas (UGAs). Portions of some FPIAs are outside existing or proposed UGAs. However, the development anticipated in FPIA is clearly urban in character. The choice of a Preferred Alternative for establishing UGA expansions should also take into account FPIA boundaries. The analysis of the five alternatives in the DEIS for the comprehensive plans does not evaluate impacts on those areas outside the proposed expanded UGAs for each alternative. Some additional analysis for the Preferred Alternative would be required in the FEIS. Where FPIAs are within existing UGAs, costs may be lower than where they are outside UGAs because utility providers have been planning and building their facilities in accordance with the 1994 comprehensive plans.

Table 1: Service Providers to FPIAs

	Water							*Sewer*									*Roads*								*Fire & EMS*												
	Clark Public	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal	Clark County	Clark Public	Hazel Dell	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal	no district	Clark County	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal	WSDOT	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal	Fire Dist. No. 1	Fire Dist. No. 3	Fire Dist. No. 5	Fire Dist. No. 6	Fire Dist. No. 9	Fire Dist. No. 11	Fire Dist. No. 12
117th Avenue	X					X				X							X	X					X		X					X				X				X
136th Avenue						X									X			X					X							X				X				
164th Avenue / CTC						X									X			X					X							X				X				
Battle Ground	X	X						X		X							X	X	X						X	X							X			X		
Burnt Bridge Creek						X									X			X					X		X									X				
Columbia Shores						X									X								X		X					X								
Discovery Corridor	X							X		X							X	X							X										X		X	X
Downtown Vancouver						X									X								X		X					X								
Fisher Swale	X		X			X						X			X			X		X			X		X		X			X				X				
Fruit Valley						X									X								X							X								
La Center Junction	X			X					X				X				X	X			X				X													X
Port of Camas Washougal			X				X					X				X				X				X	X						X	X						
Port of Vancouver						X									X								X							X								
Ridgefield Junction	X				X									X			X	X				X			X													X
St. John's						X									X			X					X		X									X				
Vancouver Mall						X									X								X		X					X				X				
WSU Research Park	X							X		X							X	X																	X		X	

If the decision is made to change the location of future growth from the 1994 plans, the providers may have difficulty recouping costs through system development charges, which could increase overall costs to the systems.

Dispersed commercial and industrial zones. The mix of land use patterns within the FPIAs affects costs per job. FPIAs with a mix of residential ("Other" land on the maps) with commercial and industrial uses and/or plan designations will be more costly to serve because fewer jobs are generated over a wider geographic area. While rezoning residential to commercial and industrial land would increase the return on the public investments in terms of jobs created, there will be political costs to such rezoning.

Homogeneous and small-lot parcelization. Homogeneous lot sizes may affect the ability of an investment area to attract targeted industries or jobs at the intensities predicted. Major employers want not only land for their own facilities, but also assurance that their suppliers can locate nearby or have convenient access to their facilities. Larger parcels that allow for businesses to expand without moving also tend to be more attractive, so that a high proportion of small parcels may impede development of FPIAs by larger businesses unless lots are consolidated.

Transportation costs and deficiencies in rural and interurban corridors. The estimated costs of the transportation improvements in FPIAs outweigh forecast revenues. Prioritization of multi-modal projects within each FPIA will be very important. In addition, most of the FPIAs rely on, and impact, rural and interurban transportation corridors connecting to other FPIAs as well as urban areas. For example, traffic originating from the Battle Ground FPIA results in level-of-service deficiencies in rural corridors (outside of the FPIA) such as SR-503, 72nd Avenue, and Ward Road. The deficiencies in turn jeopardize new development in the corridors under the county's current concurrency ordinance. Such impacts show the need to consider interurban corridors as well as transportation facilities within FPIAs when prioritizing transportation improvements in the Capital Facilities Plan.

Costs per Job

The FPIA analysis aims to provide decision-makers with information about the relative efficiency of public investments in specific locations. In this case, efficiency is evaluated by looking at how much public investment it would take to create jobs in an FPIA. The cost of providing infrastructure improvements to make each FPIA "shovel-ready" is divided by the potential job capacity (based on the amount of vacant and redevelopable land) to arrive at a "cost-per-job" that can then be compared across FPIAs.

The job capacity calculation distinguishes between the potential job capacity on vacant commercial and industrial land, vacant "other" (residential) land, and redevelopable land. The distinction is important because vacant "other" and redevelopable land is expected to take longer to develop compared to land that is vacant and already zoned for industrial and commercial uses. For example, the County would need to rezone residential land to commercial or industrial zones, which is an added step in the development process and carries with it additional costs. Redevelopable or underutilized land contains a current activity or development that would need to be changed before new development could occur. Thus, timing becomes a factor in determining the efficiency of public investment as well.

The costs per job in the FPIAs are broken out by: 1) vacant commercial and industrial land, 2) vacant commercial and industrial plus redevelopable land, and 3) all vacant and redevelopable land that could be designated for commercial and industrial uses. A comparison of the costs per job for all FPIAs is presented in Table 2.

Table 2: Summary of Costs per Job

FPIA	Costs per Job		
	Vacant Industrial + Commercial	Vacant Industrial + Commercial + Redevelopable	Vacant Industrial + Commercial, + Redevelopable + Vacant "Other"
117th	$ 46,907	$ 17,211	$ 15,233
136th	$ 26,183	$ 23,045	$ 20,047
164th/Columbia Tech Center	$ 32,916	$ 8,894	$ 7,718
Battle Ground	$ 31,045	$ 23,733	$ 17,807
Burnt Bridge Creek	$ 17,843	$ 12,707	$ 12,196
Columbia Shores	$ 32,652	$ 10,379	$ 9,527
Discovery Corridor	$ 330,338	$ 19,530	$ 13,526
Downtown Vancouver	$ 7,350	$ 1,672	$ 1,672
Fisher Swale	$ 4,584	$ 4,584	$ 4,372
Fruit Valley	$ 17,961	$ 17,961	$ 17,961
La Center Junction	$ 42,987	$ 34,516	$ 18,604
Port of Camas-Washougal	$ 25,555	$ 21,213	$ 18,344
Port of Vancouver	$ 10,401	$ 10,401	$ 10,401
Ridgefield Junction	$ 63,900	$ 21,823	$ 17,421
St. Johns Corridor	$ 31,113	$ 14,937	$ 12,450
Vancouver Mall	$ 11,156	$ 7,903	$ 3,568
WSU Industrial/Research Park	no vacant ind/comm	$ 28,138	$ 14,435

RELATED CONSIDERATIONS

The purpose of this report is to provide Clark County leadership with the information necessary to start a new era of strategic public investments in the county. Having embraced the twin goals of economic development and the generation of family-wage jobs, this report provides leaders with one component of a comprehensive package of plans and analyses designed to bring these goals to life. The forthcoming County Economic Development Strategy will be broad in scope. This report has a more narrow focus: that of comparing the different public costs required to bring potential nodes of economic development to a ready-to-build status.

While this report provides new data on infrastructure costs, it also is dependent on other planning studies that are currently underway. Though the following is not an all-inclusive list of the studies, three worth mentioning are the recent Long Range Planning revenue forecasts, the Columbia River Economic Development Council's (CREDC) Strategy, and the Express Permitting project of Clark County Community Development. The revenue forecasting work will help provide a method to quantify the public return on the infrastructure investments in each area. The CREDC report provides recommendations on targeted industries. And, finally, the Express Permitting project, with its focus on expediting development in job centers, will further demonstrate the County's commitment to a vibrant local economy.

In the simplest of terms, this analysis provides estimates of infrastructure costs needed for the full development of any of 17 economic development nodes. It is well understood that a cost-to-serve comparison is not the only decision making criterion that will be used to craft a successful economic development strategy. It is also important to consider these nodes in terms of their cultural significance, marketability, impact on taxing districts, etc. In comparing and ordering FPIAs, the relationships to revenue projections, generation of family-wage jobs, benefits to school districts, and marketability should also be considered. These factors are briefly discussed below.

Linkages to Revenue Projections

As a part of capital facilities planning, a team of County staff and consultants has been working on a method of estimating revenues from alternative land use plans. The economic goals of these different plans are diverse, and have challenged our established means of revenue forecasting. In response to this challenge, the team is developing mechanisms to quantify the benefits of job creation. Once developed, these devices can be used to better understand the tax-revenue implications of job creation within the focused public investment areas.

Linkages to Generation of Family Wage Jobs

The FPIAs have been studied to the degree necessary to provide a comparative understanding of the costs to develop. However, one of the major goals in the County's economic development effort is to provide more family-wage jobs. A threshold family-wage job is defined by Clark County code. State-wide economic data is available to reveal which sectors of the economy are likely to produce the highest proportion of family-wage jobs. Additional work is needed to tie together the targeted job sectors from the CREDC Strategy with the provision of family wage jobs, and with the focused public investment areas. However, it is not possible to derive meaningful projections of the family-wage jobs from the parcels within each FPIA.

For example, some FPIAs have been estimated to provide industrial-type jobs. Those areas tend to produce fewer jobs per acre than business parks and commercial centers. Therefore, industrial areas will perform more poorly in a strict cost-per-job comparison. However, those sites may come to host primary-manufacturing facilities with very high-paying jobs. It is also possible that such facilities will require higher private investments in property and equipment, subsequently providing higher tax revenues in the initial investment year. At this early stage in the development of the economic strategy, it is equally likely that such sites may host businesses with low-paying jobs and little capital investment.

It will be useful to develop better data on the linkages between the provision of family wage jobs, targeted industrial sectors, and the FPIAs. Yet, it would be even more useful to develop the implementing mechanisms that would assist with the creation and retention of family-wage jobs. Such implementation will be the focus of the County Economic Development Strategy. Examples of implementation techniques may include impact fee based incentives, more refined zoning regulations, allocations of transportation capacity, and (of course) focused public investments in infrastructure

Linkages to School District Equity

Many County leaders have expressed an interest in distributing the benefits of economic development in a well-planned manner. One aspect of this planning is to try to establish a degree of equity between school districts. Representatives of the school districts have been helpful in providing data that would assist with this. The data is not provided herein, but is available. Though a determination of the most needful school districts is complicated, key indicators are available. A map depicting which FPIAs lie within each school district has also been prepared for further discussions.

Linkages to Market Desirability

Prioritization of FPIAs should also recognize the location criteria that the private sector are likely to apply, such as parcel size, transportation accessibility, visibility, cultural identity, and many quality of life factors that influence site selection. Such factors have *not* been incorporated into this report. The developers of this report intend that each of these issues be brought together under the umbrella of economic development planning for the region. To that end, the Director of Clark County Community Development has requested that the CREDC provide site selection criteria that will aid in the identification of the most desirable FPIAs.

Despite the need for additional analyses, this report should provide sufficient information for an initial assessment of the focused public investment areas. From this assessment, County leaders will be able to select and develop a preferred land use alternative and capital facilities plan premised on the concept of Focused Public Investment Planning. During the many years in which the Comprehensive Plan is utilized, the selected FPIAs can be more fully explored and studied.

117TH/PADDEN PARKWAY

EXISTING LAND USES AND PARCELIZATION

The 117th/Padden Parkway investment area is bounded by NE 76th Avenue to the south, NE 130th Avenue to the east, NE 94th Avenue to the west, and extends as far north as NE 119th Avenue (Figure 2). Most of this area is within the Vancouver urban growth area (UGA), although the northeastern corner is outside the UGA. Most of the area is designated urban low-density residential and light industrial. Newer and older residential areas consisting of single-family detached homes are found north and south of Padden Parkway. The northern portion of this area is less developed, and is notable for its large, upper-income single-family detached homes on large lots.

Most commercial and industrial development is found along NE 117th Avenue and along NE 94th Avenue. Within this potential investment area is the Pacific Rockery, owned by Pacific Rock Products; CPU's Ed Fischer Customer Service and Operations Center; Central Transfer and Recycling Center; Air, Water, and Earth Recycling; and H&H Wood Recyclers. The Leichner landfill, adjacent to NE 94th Avenue, occupies around 30 acres and collected solid waste from all of Clark County from the 1930s until 1991. The landfill has been covered with an impermeable cap and will probably remain in a post-closure mode for 10 to 20 years.

The 117th/Padden Parkway investment area contains 52 vacant parcels 5 acres or smaller; 11 vacant parcels between 5 and 10 acres; 3 vacant parcels between 10 and 20 acres; and 2 vacant parcels that are larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 3: Potential Job Capacity in 117th/Padden Parkway FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	21	60.48	12	726
Industrial	24	145.41	9	1,309
Other	23	79.99	9	720
Total Vacant Land	***68***	***285.88***		***2,754***
Redevelopable Land	***94***	***390.03***	***9***	***3,510***
Total Capacity	**162**	**675.91**		**6,265**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

Over half the job capacity in this potential investment area would come from the redevelopment of currently underutilized parcels, such as the transfer and recycling center, or from rezoning vacant land currently designated for other uses (e.g., residential) for business use.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service to the area is provided by the Hazel Dell Sewer District, although a portion of the area is not in any sewer service provider's area. Improvements to both treatment and collection facilities and the extension of lines to parcels will be needed to support development. The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is $6.9 million.

Water: Most of this potential investment area is within the Vancouver Water Service Area; however, there is a small area that is in the CPU service area. Agreement between these two providers on how to

best serve the area would be needed to support full development, including a possible intertie between the systems. The total cost of water service to the area capable of supporting full industrial and commercial development is estimated to be about $2.2 million. This reflects costs associated with the augmentation of water supply and extending lines to parcels.

Stormwater and Environmental Issues: South of NE 99th Street the soils in the area drain well while north of 99th Street the water table is higher and the construction of buildings and infrastructure would be more difficult and expensive. However, the $25,000-per-acre cost of on-site treatment and detention was used. The total cost of stormwater management for this area is likely to be at least $14.3 million.

The northeastern corner of this potential investment area drains to China Ditch and Lacamas Lake, so impacts to endangered species in these water bodies could affect mitigation costs. Clark County GIS maps show that small areas of critical lands are scattered throughout this area.

Although the former Leichner landfill is now closed, reclamation and redevelopment of this area with urban uses is likely to take a long time (longer than the 20 year horizon of this plan). Therefore, the total vacant land available for development in this area is somewhat less than reported in the GIS data.

Transportation: Jurisdictional responsibility for roads within this area extends to Clark County, the City of Vancouver, and the Washington Department of Transportation (WSDOT). A lot of surrounding growth would require additional roadways for access and circulation. Since SR-503 serves as the spine for this FPIA, it is affected as much by what occurs within the 117th Avenue FPIA as what occurs in other areas, such as in Battle Ground and Burnt Bridge Creek FPIAs. High levels of traffic congestion on SR-503 would make this FPIA more attractive for shorter trips and for work trips from the Vancouver UGA.

It is critical that new development along SR-503 has no or limited access directly onto SR-503 to protect the integrity of that corridor. A future, planned interchange at SR-503 and the Padden Parkway on the south side of this FPIA would require adequate setbacks and no access to SR-503 to accommodate this interchange, which would become a significant transportation node in the future. Land uses along SR-503 should be developed so as to be walkable from C-TRAN service between Battle Ground, Vancouver Mall, and downtown Vancouver on SR-503. SR-503 will likely need to be widened to six lanes from NE 119th Street to SR-500/Fourth Plain, or the LOS standard for that facility reduced, to enable economic development within this FPIA. Seven transportation projects, including improvements to the local bike and pedestrian system, have been identified to serve new development within this potential investment area. Table 37 lists these projects. The total cost for improvements to transportation facilities in the area is estimated to be around $69.6 million.

Fire Protection and Emergency Services: Although this area is mostly within Fire District 5 boundaries, fire protection and BLS emergency medical services (EMS) are provided primarily by the City of Vancouver Fire Department under a contract agreement with Fire District 5. In addition, a small area at 117th Avenue and 119th Street is served by Fire District 3. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently <u>not</u> provided to 363.4 acres (63 percent) of the potential investment area located between 119th Street on the north and 76th Street on the south, and 94th Avenue to the west and 130th Avenue to the east.

The City of Vancouver Fire Department is planning to construct a new fire station ($1,500,000) with a single engine ($550,000) company to be located approximately at 125th Avenue and 72nd Street. The City anticipates that the new station will provide an average 5-minute response coverage for the 117th Avenue potential investment area. Therefore, total costs are estimated to be about $2 million.

Electricity: It is possible that this area would need another substation to increase electrical capacity and accommodate full industrial and commercial development. The 119th Street substation would relieve the Union substation. Solar Siemens, whose Clark County plant grows silicon crystals, may move from its current location within this area, which would effectively increase electrical capacity within the area. The total cost of providing electrical service to this FPIA is estimated to be around $425,000.

SUMMARY OF COSTS

Table 4 summarizes the cost of bringing vacant and underutilized land in the 117th FPIA up to the level that CREDC believes necessary to enable the county to compete for prime industries. Considering only the potential job capacity of vacant industrial and commercial land results in a cost of $46,907 per job. However, if potential redevelopment of underutilized land is included, the cost falls to $17,211 per job, and if all vacant and redevelopable land in the area that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $15,233.

Table 4: Summary of Infrastructure Costs for the 117th/Padden Parkway FPIA

Infrastructure	Estimated Cost
Sewer	$6,854,478
Water	$2,240,292
Transportation	$69,600,000
Fire and EMS	$2,050,000
Stormwater/Environmental mitigation	$14,260,125
Electrical	$425,000
Total	$95,429,895

136TH AVENUE

EXISTING LAND USES AND PARCELIZATION

Current land uses in the 136th Avenue FPIA (Figure 3) include commercial (primarily along Mill Plain Boulevard and NE 136th) and residential (primarily single-family detached homes). The area includes several newer residential subdivisions, such as the First Place and North Hearthwood neighborhoods. There are also newer and older apartment buildings, most located just south of Mill Plain Boulevard Three parks and two schools—Wy'East Middle School and Evergreen High School—are found within this FPIA. Evergreen Airpark is just off of Mill Plain Boulevard and NE 139th Avenue.

The 136th Avenue investment area contains 85 vacant parcels 5 acres or smaller; 1 vacant parcel between 5 and 10 acres; 3 vacant parcels between 10 and 20 acres; and none larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 5: Potential Job Capacity in 136th Avenue FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	77	87.24	12	1,047
Industrial	7	40.11	9	361
Other	5	11.96	20	239
Total Vacant Land	***89***	***139.31***		***1,647***
Redevelopable Land	***7***	***9.58***	***20***	***192***
Total Capacity	**96**	**148.90**		**1,839**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

Most of the job capacity in this potential investment area would come from development of vacant industrial or commercial parcels. However, most of these parcels are under 5 acres and therefore not suitable for major employers.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service to the area is provided by the City of Vancouver and effluent is treated at the Marine View Wastewater Treatment Plant. New development would have to pay for improvements to treatment facilities, but no improvements to collection facilities would be needed to support development. The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is $446,000.

Water: This potential investment area is within the Vancouver Water Service Area and the basic water service infrastructure is in place. New development would pay for water supply and treatment investments that the city has already made, but not for transmission system improvements. The total estimated cost of water service to the area capable of supporting the development of vacant and underutilized parcels is $383,000. This reflects cost associated with water supply improvements.

Transportation: Jurisdictional responsibility for roads within this area extends to Clark County and the City of Vancouver. In the event that Evergreen Airpark closes, a local circulation and collector system should be planned and established to serve redevelopment. Additionally, east-west circulation via 4th Street and 9th Street across NE 136th Avenue would relieve high congestion levels on Mill Plain Boulevard and NE 18th Street; however, this would also result in a high potential for through traffic through residential neighborhoods on both sides of 136th Avenue. Traffic calming strategies should be implemented on NE 9th Street.

Mill Plain Boulevard is projected to be at LOS F conditions, to which development in this FPIA partially contributes. To relieve this, adaptive traffic control as well as a high level of traffic signal coordination should continue to be implemented along Mill Plain. Design measures to encourage use of NE 18th Street as a Principal Arterial, and Burton Road/28th Street as a Minor Arterial, should be implemented. Access management, signal spacing of ¼ to ½ mile at a minimum, and minimizing side street connections are measures to increase the capacity of both corridors.

Three main road transportation projects plus pedestrian and bicycle improvements have been identified to serve projected commercial and industrial development within this area. Table 37 lists these projects. The total cost for transportation facility improvements within this area is estimated to be around $32.1 million.

Fire protection and emergency services: The City of Vancouver Fire Department provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to approximately 97 percent of this geographic area. No public investment is required for fire protection and emergency medical services

Stormwater and Environmental Issues: Soils in the area drain well, so stormwater management would not be a major issue. There are no major environmental constraints (e.g., wetlands, floodplains, riparian areas) or issues associated with further development of this area, which is quickly urbanizing. Total costs are estimated to be $3.5 million.

Electricity: Capacity within this area is sufficient to accommodate the development of vacant and underutilized parcels. There will be a need to tie 1000KCM feeders together along 136th Avenue. When and if Evergreen Airpark is vacated and developed, there will be the need to run lines underground to develop this area. The total cost of providing electrical service to this investment area is estimated to be around $480,000.

SUMMARY OF COSTS

Table 6 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this translates to a cost of $26,183 per job. However, if potential redevelopment of underutilized land is included, the cost falls to $23,045 per job, and if all vacant and redevelopable land in the area that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $20,047.

Table 6: Summary of Infrastructure Costs for the 136th Avenue FPIA

Infrastructure	Estimated Cost
Sewer	$446,471
Water	$383,263
Transportation	$32,100,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$3,453,125
Electrical	$480,000
Total	$36,862,859

164TH /COLUMBIA TECH CENTER (CTC)

EXISTING LAND USES AND PARCELIZATION

This potential investment area is roughly bounded by SE 15th Street to the south, NE 18th Street to the north, SE 188th Avenue to the east, and SE 160th Avenue to the west (Figure 4). This area is within the Vancouver UGA, and about half the area is within Vancouver's municipal boundary. Most of the area is designated light industrial, urban low and medium residential, and community commercial.

Most residential development is north of SE 1st Avenue, between NE 164th and NE 172nd Avenues. A portion of this residential area abuts the George Schmid sand and gravel mine, which occupies around 22 acres. Single-family detached homes and some townhouses and apartments occur west of NE 164th Avenue. Commercial development is concentrated along NE 164th Avenue. Most of the development in this area has occurred within the last 15 years and is in good condition.

Within the 164th/CTC investment area are 28 vacant parcels 5 acres or smaller; 10 vacant parcels between 5 and 10 acres; 3 vacant parcels between 10 and 20 acres; and 1 vacant parcel larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 7: Potential Job Capacity in 164th/CTC FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	18	74.20	12	890
Industrial/Business Park	17	72.92	20	1,458
Other	7	66.20	20	1,324
Total Vacant Land	***42***	***213.31***		***3,673***
Redevelopable Land	***25***	***317.19***	***20***	***6,344***
Total Capacity	**67**	**530.51**		**10,017**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

Over 60 percent of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels. Much of the redevelopment would replace single-family homes or small farming operations.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service to the area is provided by the City of Vancouver and effluent is treated at the Marine View Wastewater Treatment Plant. New development would have to pay for improvements to treatment facilities, but no improvements to collection facilities would be needed. The total cost of sewer service to the area capable of supporting full industrial and commercial development is estimated to be around $4.3 million.

Water: This potential investment area is within the Vancouver Water Service Area and the basic water service infrastructure is in place. New development would pay system development charges for water supply and treatment investments that the city has already made. Some extension of transmission systems would also be needed to reach outlying portions of the area. The cost of water service improvements to fully serve the area is estimated to be around $3.4 million.

Transportation: The City of Vancouver and Clark County have jurisdiction over roadways in this area. Much of this FPIA depends on the reclamation and redevelopment of Section 30. The 164th Avenue and Mill Plain concurrency corridors serve this FPIA, and both are showing LOS deficiencies by 2023. Land

uses which serve to contain trips within this FPIA, or which send trips in the non-peak direction, can be accommodated, whereas adding more residential development, which adds trips to the peak direction, will contribute to the concurrency failure and cannot be accommodated without:

- Mixed use development within Section 30 to minimize trip length and to foster walking and bicycling modes;
- A change in the LOS standard for both 164th Avenue and Mill Plain Boulevard; or
- Additional improvements to 164th Avenue and Mill Plain Boulevard, both of which will carry with them significant impacts to adjacent businesses and residences.

Impacts on the surrounding roadway system may be mitigated by requiring or encouraging employer TDM programs, as well as retrofitting existing land uses to provide pedestrian and bicycle connections between land uses. Additionally, master planning of Section 30 should examine land use patterns which serve to contain trips, reduce trip length, and are amenable to walking or bicycling, or have services which support industrial and office employment on the site, such as retail stores and restaurants.

This FPIA assumes that the gravel pit area is reclaimed and redeveloped. The eastern portion has access to NE 192nd Avenue, which would be more attractive to trips to and from SR-14 if it were protected as a four-lane parkway, rather than allowing direct access from adjacent development. A circulation plan should be developed for land uses not already covered within the CTC Master Plan. The circulation system should be coordinated with the Section 30 redevelopment. Numerous transportation projects to serve new development within the area have been identified, listed in Table 37. The total cost for improvements to transportation facilities is estimated to be around $59.7 million.

Fire protection and emergency services: This area is within the City of Vancouver and Fire District 5 boundaries. Fire protection and BLS emergency medical services are provided by the City of Vancouver Fire Department under a contract agreement with Fire District 5. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to virtually 100 percent of this geographic area. No public investment is required for fire protection and emergency medical services.

Stormwater and Environmental Issues: Soils in this area drain well, so stormwater management would not be a major issue. On-site detention and treatment is estimated to cost $25,000 per acre. The total cost of stormwater management for this area is estimated to be around $9.3 million.

This FPIA is urbanizing and does not have significant environmental issues that would constrain development outside the gravel quarry in the eastern portion of the area located in Section 30. This resource has supported much of the construction in the region over the past decade. Development of the quarry would require its closure and reclamation, and other sources of material for construction of the roads and buildings planned for the area would be needed.

Electricity: CPU estimates that existing capacity is adequate to accommodate the additional loads that would be generated by new development within this area. However, some light wires may need to be upgraded to meet anticipated demand. The total cost of necessary improvements is estimated to be around $625,000.

SUMMARY OF COSTS

Table 8 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the county to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this translates to a cost of $32,916 per

job. However, if potential redevelopment of underutilized land is included, the cost falls to $8,894 per job, and if all vacant and redevelopable land in the area that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $7,718.

Table 8: Summary of Infrastructure Costs for the 164th/CTC FPIA

Infrastructure	Estimated Cost
Sewer	$4,284,597
Water	$3,432,476
Transportation	$59,700,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$9,270,288
Electrical	$625,000
Total	$77,312,361

BATTLE GROUND

EXISTING LAND USES AND PARCELIZATION

The Battle Ground investment area is the largest of the 17 analyzed (Figure 5). It is contiguous with the proposed UGA for the City of Battle Ground. Land uses are diverse, and only a small portion of the area would be devoted to industrial or commercial uses. The proposed land use map provided by the City of Battle Ground shows industrial and commercial development dispersed throughout the area, not concentrated. While this would encourage people to walk or bicycle to work from adjacent residential areas, it distorts the cost estimates for the needed infrastructure investments. Water and sewer systems would have to be extended to cover the entire area, even though much of it would not be used for employment development.

This largely rural area has a rapidly urbanizing City of Battle Ground at its center. Around the older core of the city, much of the development has occurred within the past 15 years and is in good condition. To the south of the city are the unincorporated residential communities of Meadow Glade and Cedars. Homes in those areas are on comparatively smaller lots (1 to 2.5 acres) and not likely to redevelop in the near future. Recent development on larger rural lots typically consists of large, expensive homes.

The Battle Ground investment area contains 60 vacant parcels 5 acres or smaller; 16 vacant parcels between 5 and 10 acres; 15 vacant parcels between 10 and 20 acres; and 26 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 9: Potential Job Capacity in Battle Ground FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	19	15.75	12	189
Industrial	52	1109.61	9	9,986
Other	46	369.09	12	4,429
Total Vacant Land	***117***	***1,494.45***		***14,605***
Redevelopable Land	***35***	***261.28***	***12***	***3,135***
Total Capacity	**152**	**1,755.73**		**17,740**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

Approximately 57 percent of the job capacity would be from development of vacant industrial and commercial property, which, as noted earlier is dispersed throughout the Battle Ground FPIA. About one-quarter of the job capacity would come from development on land not designated for industrial or commercial uses. About 18 percent of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels (for example, equipment yards or nurseries converting to more intensive use).

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Only half of the proposed investment area is currently within the Battle Ground sewer service district. The Hazel Dell Sewer District does not provide collection service to this area, but could extend service. Battle Ground collects wastewater and sends it via an 8-mile long interceptor/force main to the Salmon Creek Wastewater Treatment Plant for treatment and disposal in the Columbia River.

Much of the potential investment area is downgrade from the city sewage treatment plant, and the city would not pump everything up before feeding it in to the interceptor sewer. The interceptor sewer does

not have the capacity to handle sewage from the entire analysis area. This could be addressed in several ways:

- Upgrading the existing interceptor or construction of a parallel line to carry waste to the Salmon Creek Wastewater Treatment Plant.
- Constructing a new sewage treatment plant in the City of Battle Ground.
- Constructing a connection to the City of Vancouver system and contracting with Vancouver to treat and dispose of the waste.

Each of these options has different costs and impacts. Construction in the Salmon Creek corridor would be very difficult and expensive because of the sensitive environment and the listed salmonid species in the creek. Permitting could take years and involve substantial mitigation.

Construction of a new treatment plant would only work if there were a good way to dispose of treated wastewater. If the plant provided tertiary treatment, release to the ground or Salmon Creek might be possible. Some of the new treatment technologies are promising for these types of situations.

In the short run, an agreement with the City of Vancouver could be the most cost-effective way for development to occur, but it too would require construction of a line crossing Salmon Creek.

The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is approximately $21 million.

Water: The Battle Ground investment area is served by both the City of Battle Ground and CPU. Both have made or are making improvements to supply (new wells and storage facilities) and transmission lines. Nonetheless, additional storage capacity would be needed to meet the fireflow requirements of the city. The total estimated cost of water service improvements to the area is around $5.5 million.

Transportation: Both Clark County and the City of Battle Ground have jurisdiction over roads in this area. The extent of new growth and the size of this FPIA carries with it potentially significant adverse traffic impacts to SR-503, SR-502, NE 72nd Avenue, and Ward Road/NE 182nd Avenue. Additionally, a significant expansion of the local street and collector network will be necessary to serve this FPIA and surrounding growth, including NE 239th Street (extended from NE 10th Avenue at Carty Road to Battle Ground) and NE 92nd Avenue. Areas which could experience significant traffic congestion include downtown Battle Ground, the SR-503 corridor between NE 199th Street and SR-502, and SR-502/Main Street from NE 112th Avenue to downtown Battle Ground. Numerous transportation improvements to support the development of vacant and underutilized land within this area have been identified and are listed in Table 37. The total cost of transportation improvements for this area is estimated to be around $197.7 million.

Fire protection and emergency services: This area is within the City of Battle Ground, Fire District 11, and Fire District 3 boundaries. Fire protection and BLS emergency medical services are provided by Fire District 11 under a contract agreement with the City of Battle Ground. Fire District 3 serves the potential investment area at its south and east boundaries. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 473.9 acres (59 percent) generally covering the southern half of the potential investment area, and a smaller area in the northwest sector of the potential investment area.

In the southeastern portion of the potential investment area, Fire District 3 owns a 2.5-acre site for a future fire station located at approximately 117th Avenue and 144th Street. Fire District staff believes that this station has the potential to become a tri-party operated facility (Fire Districts 3 and 11, and the City of

Vancouver Fire Department (which contracts with Fire District 5), that could provide an average 5-minute response time to this area. However, no significant progress has been made to implement a contract agreement. In addition, Fire District 3 suggested that 159th Street be connected east-west to provide more timely access from Fire Station 3-1 (17718 NE 159th Street, Brush Prairie). Fire District 3 has discussed this request with the County, but no commitment from the County has been made due to the estimated high costs of completing the project. The cost of the station is estimated to be $1,200,000 and one pumper will cost $350,000. The cost of connecting 159th Street is estimated to be at least $2.6 million. Environmental mitigation and intersection improvements at SR-503 could increase total costs.

In the southwestern portion of the potential investment area Fire District 11 staff recommends (1) the extension of 179th Street east-west from 137th Avenue to 102nd Avenue at Cramer Road, and (2) addition of a new fire station ($1,500,000) with a pumper truck ($280,000) at approximately 122nd Avenue and 159th Street. The addition of this fire station would also improve 5-minute response coverage to the WSU potential investment area, as would the addition of a ladder truck within 3 years at the City of Battle Ground fire station. The cost of extending 179th Street from NE 122nd Avenue to NE 137th Avenue is estimated to be $2.4 million. (Extending 179th from NE 102nd Avenue to NE 122nd Avenue is already proposed as a transportation improvement.)

In the northwestern portion of the potential investment area, the travel time analysis from the traffic model indicates some areas that are outside a 5-minute response area, but the Chief of Fire District 11 indicates that the average response time is, in fact, 5 minutes or less. As a result, no public investment is planned for fire protection and emergency medical services in the northwest portion of the Battle Ground potential investment area.

Total fire protection and emergency services costs are estimated to be approximately $8.3 million.

Stormwater and Environmental Issues: Soils in this area do not drain well, so stormwater management is difficult and on-site treatment expensive. The high water table south of Battle Ground and the presence of Salmon Creek and several major tributaries result in more expensive construction costs. On the other hand, these characteristics also make mitigation wetlands more likely to succeed and consideration should be given to creation of a regional mitigation bank. The planning-level cost for the treatment and detention of stormwater is $25,000 per acre for the area south of Salmon Creek and $49,000 per acre for the area north of Salmon Creek. The total cost for stormwater management within this area is estimated to be around $74.3 million.

Both Salmon Creek and the East Fork Lewis River provide habitat for fish species listed under the federal Endangered Species Act (ESA). The East Fork Lewis River is considered critical habitat for listed fish species. The City of Battle Ground has proposed development of industrial uses immediately to the south of the East Fork. Permitting for this development is likely to be difficult and contentious. Alternative sites should be considered.

Electricity: Electrical system upgrades would be paid for by new development directly in the form of system connection fees and by utility rates paid by customers. There are many variables associated with this potential investment area in terms of the provision of electrical service. The area is large, with much room for growth, and up to 4 new substations would be needed to meet increased demand. The total cost of providing electrical service adequate to support new commercial and industrial development is estimated to be around $9 million.

SUMMARY OF COSTS

Table 10 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the county to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, the cost per job would be $31,045. However, if potential redevelopment of underutilized land is added to the vacant commercial and industrial land, the cost per job drops to $23,733. If all vacant and potentially redevelopable land that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $17,807.

Table 10: Summary of Infrastructure Costs for the Battle Ground FPIA

Infrastructure	Estimated Cost
Sewer	$21,135,424
Water	$5,517,836
Transportation	$197,700,000
Fire and EMS	$8,330,000
Stormwater/Environmental mitigation	$74,268,331
Electrical	$8,950,000
Total	$315,901,591

BURNT BRIDGE CREEK

EXISTING LAND USES AND PARCELIZATION

The Burnt Bridge Creek investment area is on the northeastern edge of the Vancouver UGA (Figure 6). This largely rural area also contains clusters of industrial and commercial development, primarily along Fourth Plain Boulevard and west of NE 137th Avenue. Residential development within the area is limited, although some older single-family homes can be found along NE 137th Avenue. A new residential subdivision—the Parkway East neighborhood—forms the southeastern boundary of this area.

The land between NE 137th Avenue and NE 163rd Avenue comprises mostly large lots that are currently used for pasturing cattle or as open fields that do not seem to be in active agricultural production. Conversion of the large parcels to commercial or industrial uses would be dependent on resolving impacts to the flood hazard area for Burnt Bridge Creek and impacts to numerous wetlands in the area. A Bonneville Power Administration (BPA) right-of-way crosses through the middle of this FPIA.

The Burnt Bridge Creek investment area contains 52 vacant parcels 5 acres or smaller; 15 vacant parcels between 5 and 10 acres; 6 parcels between 10 and 20 acres; and 7 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 11: Potential Job Capacity in Burnt Bridge Creek FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	24	41.35	12	496
Industrial	40	501.49	9	4,513
Other	16	32.75	9	295
Total Vacant Land	***80***	***575.58***		***5,304***
Redevelopable land	***42***	***224.99***	***9***	***2,025***
Total Capacity	**122**	**800.57**		**7,329**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

About two-thirds of this FPIAs job capacity would be on currently vacant industrial and commercial (mostly industrially zoned) land. Roughly one-third of the job capacity would come from the redevelopment of currently underutilized parcels or rezoning vacant land currently designated for other uses (e.g., residential) for business use. The majority of the vacant land is designated for commercial use and has been attracting interest for retail use.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: This investment area is currently within the City of Vancouver service area. Sewage from this area is transferred to the Marine View Wastewater Treatment Plant for treatment and disposal in the Columbia River. Some extension of sewer mains along with paying for the cost of treatment plant capacity would be required for any development in this area. The total cost of sewer service to the area capable of supporting full industrial and commercial development is estimated to be around $2.8 million.

Water: This potential investment area is served by the City of Vancouver. New development would have to pay for improvements to supply (new wells and storage facilities) and transmission lines. The total cost of water service improvements to the area is estimated to be around $3.3 million.

Transportation: Three jurisdictions share responsibility for roads within the Burnt Bridge Creek investment area: Clark County, the City of Vancouver, and WSDOT. Development of the Burnt Bridge

Creek FPIA will require construction of a circulation collector and industrial roadway system, including NE 147th Avenue from Ward to NE 137th Avenue and NE 62nd/65th Street from NE 147th Avenue to NE 162nd Avenue. A circulation system with a connection to 162nd Avenue as well as to SR-500/Fourth Plain should be provided for land access and local traffic circulation for growth east of NE 162nd Avenue.

Since this FPIA is near the fringe of the Vancouver UGA, it is unlikely that a high level of transit service could be provided to serve the FPIA and even with service it is unlikely that a significant number of trips would shift to transit. Transportation improvements that would support the full development of vacant and underutilized land within this area are listed in Table 37. The total cost for these improvements is estimated to be around $57.5 million.

Fire protection and emergency services: Although this area is within Fire District 5 boundaries, fire protection and BLS emergency medical services are provided by the City of Vancouver Fire Department under a contract agreement with Fire District 5. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to 100 percent of this geographic area. No public investment is required for fire protection and emergency medical services.

Stormwater and Environmental Issues: The area adjacent to Burnt Bridge Creek has deep peat or bog soils. Generally, soils in this area do not drain well. Construction and stormwater management is difficult, and on-site detention and treatment is expensive. The water table in the area is high and parts of the investment area are in the Burnt Bridge Creek floodplain. Recent county road projects have been substantially more expensive because of the need to provide special stormwater management and to mitigate impacts to wetlands. The costs for stormwater management for this investment area would be $25,000 per acre for the northern and western portions of the area and $49,000 for the southern portion. The total cost is estimated to be around $21 million.

While local soil and wetland characteristics make construction more expensive, it also means the area is a good candidate for the creation of a regional mitigation bank. If this were done, development in the area would be facilitated.

Burnt Bridge Creek provides habitat for fish species listed under the ESA. Permitting for development in the area can add one to two years to the pre-development process and is often difficult and contentious. Creation of a wetland mitigation bank in the area would facilitate permitting of new development.

Other streams and watersheds within the area that could be impacted by stormwater runoff include Mill Creek and Woodin Creek, both of which have water quality problems and are a part of the Salmon Creek watershed, and Manley Creek, which is listed as being in fair condition and is a part of the East Fork Lewis River watershed.

Electricity: Because this investment area is fairly large and rural, there is currently inadequate capacity to meet the demands that would be generated for electricity by the development of vacant and underutilized parcels. CPU estimates that two new substations would be necessary to handle the additional load generated by new development. The total cost of providing electrical service adequate to support projected commercial and industrial development is estimated to be around $4.8 million.

SUMMARY OF COSTS

Table 12 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job

capacity of vacant industrial and commercial land is considered, this would be $17,843 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $12,707. If all vacant and redevelopable land were designated for commercial or industrial use, the cost per job would be $12,196.

Table 12: Summary of Infrastructure Costs for the Burnt Bridge Creek FPIA

Infrastructure	Estimated Cost
Sewer	$2,800,509
Water	$3,344,417
Transportation	$57,500,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$20,964,988
Electrical	$4,775,000
Total	$89,384,914

COLUMBIA SHORES

EXISTING LAND USES AND PARCELIZATION

The Columbia Shores investment area is within the city of Vancouver on the north shore of the Columbia River (Figure 7) and is bisected by State Route 14 (SR-14). Columbia Shores was an industrial area that has more recently been converted to a more mixed-use area. Most of the area south of SE Columbia Way is in light and heavy industrial uses with many industries related to marine operations. The area south of SE Columbia Way also includes new office and business park development. North of SE Columbia Way is another industrial cluster.

Residential development within the investment area is limited, although newer apartments and condominiums have been built south of SE Cutter Lane. Toward the eastern end of the investment area is the Marine View Wastewater Treatment Plant and Marine Park.

There are some large, vacant parcels within the Columbia Shores investment area, but those north of SR 14 are very steep and probably not appropriate for industrial and commercial use. The remaining vacant land in this area consists of infill in a thriving industrial area.

The Columbia Shores investment area contains 15 vacant parcels 5 acres or smaller; 2 parcels between 5 and 10 acres; 1 parcel between 10 and 20 acres; and none are greater than 20 acres.

POTENTIAL JOB CAPACITY

Table 13: Potential Job Capacity in Columbia Shores FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	1	0.81	12	10
Industrial	16	39.79	9	358
Other	1	5.17	20	103
Total from Vacant Land	***18***	***45.77***		***471***
Redevelopable land	***28***	***87.70***	***9***	***789***
Total Capacity	**46**	**133.47**		**1,261**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002

About two-thirds of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels. The majority of the vacant land is designated for industrial use, but much of it is very steep and under the flight path of Pearson Field.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: The Columbia Shores investment area is within the City of Vancouver service area. Sewage is transferred to the Marine View Wastewater Treatment Plant for treatment and disposal in the Columbia River. The area is well served and the cost to new development is only for recovery of the cost of treatment plant capacity that the city has already provided. The total estimated cost of sewer service to the area to support full industrial and commercial development is about $400,000.

Water: This potential investment area is served by the City of Vancouver. New development would have to pay for improvements the city has already made, but all lots have access to service. The total cost of estimated water service improvements to the area is about $344,000.

Transportation: Responsibility for roads within this area belongs to the City of Vancouver. This FPIA is considerably "land locked" from the surrounding transportation system, with one primary roadway into it. Transit service has been provided into this area in the past, but with the lack of density, the types of industrial and office uses, and the "dead-end" nature of the roadway system, transit ridership was minimal. Isolation of this area from the surrounding system could be relieved by providing an eastern exit, somewhere near the interchange of SR-14 and Evergreen Boulevard/Riverside Drive.

Traffic impacts could be mitigated by providing employer-based programs for job sites and allowing for retail and restaurant establishments to reduce vehicular trip demand and trip length. The extension of SE Columbia Way and improvements to the pedestrian and bike network in the area have been identified to support new development. The total cost of these improvements is estimated to be around $8.1 million.

Fire protection and emergency services: The City of Vancouver Fire Department provides fire protection and BLS emergency medical services to this area located near Downtown Vancouver. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 53.8 acres (40 percent) of the potential investment area located along Riverside at Grand Avenue.

City of Vancouver Fire Department staff suggests that road access into the northeast corner of the focus is required to enable Fire station 84 (1110 North Devine Road) to provide an average 5-minute response time coverage for the Columbia Shores potential investment area. If the Columbia Way extension project listed as part of the proposed transportation improvements for this FPIA is not built, local streets would need to be upgraded, costing up to $1.9 million.

Stormwater and Environmental Issues: Development in this area requires on-site detention and treatment, with treated water being pumped over the dike to the Columbia River. Stormwater management costs for this area are estimated to be $10,000 per acre. The total cost is estimated to be around $870,325. The river adjacent to Columbia Shores does not provide critical habitat for migrating salmonids, so ESA compliance is not difficult.

Electricity: An additional feeder may have to be extended from the existing substation to serve new development in the area. Around 2.5 miles of distribution lines at $150,000 per mile would be needed. The total cost of expanding electrical service to meet the needs of new commercial and industrial development within this area is estimated to be around $395,000.

SUMMARY OF COSTS

Table 14 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the county to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $32,652 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $10,379. If all vacant and underutilized land were designated for commercial and industrial uses, the cost per job would fall to $9,527.

Table 14: Summary of Infrastructure Costs for the Columbia Shores FPIA

Infrastructure	Estimated Cost
Sewer	$400,210
Water	$343,552
Transportation	$8,100,000
Fire and EMS	$1,900,000
Stormwater/Environmental mitigation	$870,325
Electrical	$395,000
Total	$12,009,087

DISCOVERY CORRIDOR

EXISTING LAND USE AND PARCELIZATION

The Discover Corridor investment area is north of Vancouver, along Interstate 5 (I-5). About half of the area is within Vancouver's UGA, and half is in unincorporated Clark County (Figure 8). It is the second largest area evaluated in this report. Development around the County Fairgrounds is somewhat urban in character, and there is a mixture of uses along I-5. However, this is predominantly a rural or large-lot residential area, with rural estate housing development in the north end of the potential investment area. Many of the large vacant parcels remaining have environmental constraints (wetlands, streams, steep slopes) that hinder development for industrial or commercial use. Consideration should be given to redrawing the boundaries of this area to exclude areas with rural estate housing (which are not likely to convert to other uses) and with extensive environmental constraints (west of I-5) that also create difficulties for utility service (see below).

The Discovery Corridor investment area has 63 vacant parcels 5 acres or smaller; 11 vacant parcels between 5 and 10 acres; 9 vacant parcels between 10 and 20 acres; and 6 vacant parcels greater than 20 acres.

POTENTIAL JOB CAPACITY

Table 15: Potential Job Capacity in Discovery Corridor FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	12	14.95	12	179
Industrial	43	107.40	9	967
Other	34	430.20	20	8,604
Total from Vacant Land	***89***	***552.55***		***9,750***
Redevelopable land	***192***	***911.94***	***20***	***18,239***
Total Capacity	**281**	**1,464.49**		**27,989**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Two-thirds of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels (mostly single-family homes on 5- or 10-acre lots). The majority of the vacant land is at interchanges or along the freeway in the south part of the potential investment area.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: The Hazel Dell Sewer District serves a portion of this area. The north end is currently outside all sewer service districts. The area west of I-5 is criss-crossed with streams in fairly deep valleys, making it necessary to pump effluent to the mains and treatment plant. In addition, the major lines are currently east of I-5, and in order to reach them, boring under the freeway would be necessary. The costs associated with this would be significant ($300 to $500 per linear foot). As a result, STEP systems have been assumed for development in this area. The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is approximately $22.5 million.

Water: CPU provides water service to the area. The total estimated cost of extending water service to accommodate the development of vacant and underutilized parcels within the area is about $6.8 million. The estimate reflects costs associated with expanding the water supply ($3.9 million) and with upgrading and extending distribution lines ($2.9 million).

Transportation: Jurisdictional responsibility for roads in this area belongs to Clark County and WSDOT. Transportation infrastructure in the area is incomplete and existing roads are designed to serve rural rather than urban development. With possible extension of industrial and commercial uses north along I-5 the planned land uses cause I-5 to take on a "pseudo arterial" function, which is inconsistent with its Interstate function. Urban and dense industrial development will contribute to increases in congestion along I-5 as well as at the NE 134th Street, 179th Street, 219th Street, and Ridgefield interchanges.

Therefore, transportation investments in this FPIA (as well as in the Ridgefield Junction FPIA) should provide alternative north-south arterial corridors, including a frontage road system adjacent to I-5 to provide local land access.

The Discovery Corridor concept may also lend itself to an extension of light rail service north along I-5, if development plans are built with walk and bike accessibility to LRT. The Discovery Corridor presents a unique opportunity for two-directional ridership similar to the Westside Light Rail line between Portland and Hillsboro. Ridership could come from Ridgefield residents commuting south, as well as workers in the corridor commuting northward from homes to the south. A transit-oriented master plan for this FPIA should be developed prior to implementing the zoning plan.

Necessary transportation improvements to support new development are listed in Table 37, but LRT costs are not included. The total cost for these improvements is estimated to be around $283 million.

Fire protection and emergency services: This area is within the boundaries of Fire Districts 6, 11, and 12. Fire protection and BLS emergency medical services are provided by each of the districts. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to approximately 89 percent of this geographic area, which is considered an acceptable level of service.

Fire District 11 staff suggests that the installation of "opticom" traffic signal switches on district fire apparatus responding east-west along 219th Street from Fire Station 11-1 (21609 NE 72nd Avenue, Dollars Corner) in order to assist in supporting an average 5-minute response time for this potential investment area. The cost of opticom traffic signal switches is estimated to be $4,000 per traffic signal and $1,000 per fire apparatus. With five fire/emergency apparatus and seven signalized intersections, the total would be $33,000.

Stormwater and Environmental Issues: As noted earlier, the area west of I-5 is very hilly and drained by many streams. Although Whipple Creek does not provide critical salmon habitat, the extensive riparian habitat and wetlands make development more difficult. Permitting can add one to two years to the approval timeline and increase the project cost substantially. Development of a regional wetland mitigation bank should be considered for this area. The cost associated with the on-site treatment and detention of stormwater within this area is estimated to be around $49,000 per acre, making the total cost of stormwater management around $62.3 million.

Electricity: The total estimated cost of extending electrical service to this area is estimated to be around $4 million. This estimate assumes that the Legacy Hospital substation will be built and functioning.

SUMMARY OF COSTS

Table 16 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $330,338 per job—the highest cost per job. However, there is some potential for redevelopment of underutilized land in the area,

and if the redevelopment potential of that land is included, the cost per job drops to $19,530. If all vacant and underutilized land were designated for industrial and commercial uses, the cost per job would be $13,526.

Table 16: Summary of Infrastructure Costs for the Discovery Corridor FPIA

Infrastructure	Estimated Cost
Sewer	$22,495,829
Water	$6,802,549
Transportation	$283,000,000
Fire and EMS	$33,000
Stormwater/Environmental mitigation	$62,245,379
Electrical	$4,000,000
Total	$378,576,757

DOWNTOWN VANCOUVER

EXISTING LAND USES AND PARCELIZATION

The Downtown Vancouver investment area encompasses a portion of downtown Vancouver (Figure 9) that is west of I-5 and south of Fourth Plain Boulevard (east half) and Mill Plain Boulevard (west half). This historic core of the city has in recent years been the focus of city redevelopment and economic development efforts. The city has prepared a 20-year redevelopment plan—the Esther Short Subarea and Redevelopment Plan—that outlines a vision for Esther Short Park and the surrounding area. The plan anticipates the development of 1,010 residential units and 540,000 square feet of commercial space, with 2,700 new jobs.

Development is currently a mix of residential (largely in the north), commercial (in the downtown and along Main and Washington streets) and industrial (to the southeast, including a portion of the Port of Vancouver). Most of the land is developed, although some structures are vacant. Increasing employment and housing in the area will come as a result of redevelopment or infill.

The City of Vancouver has completed master planning for the Esther Short Redevelopment Area, and is now in the process of implementing that plan. Information about expected job capacity of the area comes from that plan.

As to be expected in this older urban area, all vacant parcels (115) are 5 acres or smaller.

POTENTIAL JOB CAPACITY

Table 17: Potential Job Capacity in Downtown Vancouver FPIA

Vacant Land	***Parcels***	***Acres***	***Jobs/Acre***	***Total Jobs***
Commercial	86	17.55	20	351
Industrial	29	22.21	20	444
Total from Vacant Land	***115***	***39.76***		***795***
Redevelopable land				***2,700***
Total Capacity	**115**	**39.76**		**3,495**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Over 75 percent of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels, and the City of Vancouver is actively encouraging firms to locate in the area. The job capacity for redevelopable land is based on the Esther Short Subarea and Redevelopment Plan. This plan did not identify specific parcels for redevelopment, but rather offered an estimation of the number of jobs that could be expected from the redevelopment of land within the downtown area.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service is in place and adequate to support proposed redevelopment. New development would have to pay system development charges, but no additional or upgraded collection lines would be required. The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is $1.1 million.

Water: Water service to this area is also adequate to support planned redevelopment and intensification of use. Fire flow is also adequate (3000 to 3500 psi). As a result, the only cost a new developer in the area would have to pay is for supply and treatment costs already incurred by the city. The total cost of estimated water service improvements to the area is about $900,000.

Transportation: The City of Vancouver and WSDOT have responsibility for roads within this area, and transportation facilities are well developed. Investments in this FPIA should be coordinated with any improvements in the Port of Vancouver FPIA as well as the Columbia Shores and Fruit Valley FPIAs. Densities in this FPIA lend themselves to a high level of transit service and ridership potential. Planning for the LRT extension into Vancouver and the LRT loop would increase accessibility of this FPIA, however the costs of building LRT are not included. The total cost for improvements to transportation facilities within this area without the LRT cost is estimated to be $3.5 million.

Fire protection and emergency services: The City of Vancouver Fire Department provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to 100 percent of this geographic area. No public investment is required for fire protection and emergency medical services.

Stormwater and Environmental Issues: This is a fully developed part of the city. There are no wetlands, streams, or sensitive habitats. The area is under the flight path of Portland International Airport, and, as a result, noise mitigation is required.

Stormwater from the area is collected in pipes and taken to the Westside Wastewater Treatment Plant for treatment and disposal. Redevelopment would not cause additional run-off due to existing coverage by impervious surfaces. While the existing system handles runoff from the impervious surfaces, it may need to be upgraded due to older or undersized pipes, creating some additional costs for stormwater management at around $10,000 per acre. The total cost is estimated to be about $400,000.

Electricity: It is estimated that the existing system would be able to accommodate commercial and industrial development within the Downtown Vancouver investment area. Since there would not be an expansion of the existing system to serve this new development, no costs are expected.

SUMMARY OF COSTS

Table 18 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $7,350 per job. However, there is some potential for redevelopment of land in the Esther Short redevelopment area, and if this is included, the cost per job drops to $1,672.

Table 18: Summary of Infrastructure Costs for Downtown Vancouver FPIA

Infrastructure	Estimated Cost
Sewer	$1,047,976
Water	$899,613
Transportation	$3,500,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$397,630
Electrical	$0
Total	$5,845,219

FISHER SWALE

EXISTING LAND USES AND PARCELIZATION

The Fisher Swale investment area is east of Interstate 205 (I-205), between Vancouver and Camas (Figure 10). This rapidly urbanizing area contains mostly development less than 15 years old. Both Camas and Vancouver have asked to have a portion or all of this area included in their respective UGAs. The City of Camas designated this area for industrial campus development over a decade ago and has had substantial success in attracting businesses and industries interested in larger parcels with the potential to accommodate facility expansion.

The Fisher Swale area has a variety of land uses. Clusters of residential development are found along SE 34th Street, including the Winchester Hills subdivision. Three schools are within this area: Illahee Elementary, Skyridge Middle School, and Prune Hill Elementary. Many high-technology companies have located to an industrial campus on Pacific Rim Boulevard. WaferTech occupies a large site along SE 1st Avenue. The Pacific Rock sand and gravel quarry is found in the southern portion of this potential investment area. Some larger parcels within this area are still used for agriculture or grazing.

The Fisher Swale investment area contains 33 vacant parcels 5 acres or smaller; 14 vacant parcels between 5 and 10 acres; 11 vacant parcels between 10 and 20 acres; and 14 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 19: Potential Job Capacity in Fisher Swale FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Industrial	69	759.59	20	15,192
Other	3	36.84	20	737
Total from Vacant Land	***72***	***796.43***		***15,929***
Redevelopable land	***0***	***0***		***0***
Total Capacity	**72**	**796.43**		**15,929**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Increased job capacity would come from vacant parcels only, primarily from the development of vacant industrial parcels.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: A portion of the area (generally east of Fisher Creek) is served by the City of Camas, and the remainder is in the Vancouver sewer service area. Camas uses STEP sewers to serve the area. Lines would have to be extended to serve new development in parts of the area, but the cost of STEP sewers is less than standard collection lines. Vancouver collects wastewater and carries it to the Marine View Treatment Plant for treatment for eventual release to the Columbia River. The total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is $9.1 million.

Water: Both Vancouver and Camas also provide water service to this area. Generally, Vancouver's service is to the west of Fisher Creek, Camas to the east. Most of the necessary water lines to support development are in place, so the major cost to new development would be that of repaying the cities for development of supply and treatment facilities to serve the area. The total estimated cost of water service improvements to the area is $6.7 million.

Transportation: Four jurisdictions have responsibility for roads within this area: Clark County, the City of Vancouver, the City of Camas, and WSDOT. This area relies on NE 192nd Avenue as its primary north-south arterial. Adding urban development in this FPIA is projected to increase congestion along 162nd/164th Avenue unless vehicle travel can be encouraged to use 192nd Avenue. Access to NE 192nd Avenue should be limited and little or no additional direct access from adjacent land uses should be allowed, to maintain the integrity of 192nd Avenue as a Principal Arterial Parkway and to relieve 162nd/164th Avenue. Camas and Vancouver should coordinate in establishing a north-south and east-west local and collector circulation system.

The remoteness of this area from established community centers and existing transit service makes provision of a high level of transit service unlikely. As Table 37 shows, transportation projects for this area are limited to improvements to the local bike and pedestrian system and the upgrade and extension of 192nd Avenue. The total cost for these projects is estimated to be $10.5 million.

Fire protection and emergency services: This area is within the boundaries of the City of Camas, City of Vancouver, and Fire District 5. Fire protection and BLS emergency medical services are provided by the fire departments of the cities of Camas and Vancouver. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to approximately 85 percent of this geographic area, which is considered an acceptable level of service.

The travel time analysis from the traffic model indicates as much as 15 percent of the potential investment area may be outside a 5-minute response area, but the Fire Chief of the City of Camas indicates that the average response time is, in fact, 5 minutes or less. This may be due to the new (2001) fire station located in the Fisher Swale area. As a result, no additional public investment is planned for fire protection and emergency medical services in the Fisher Swale potential investment area.

The City of Vancouver Fire Department is already planning to construct a new fire station ($1,500,000) with a single engine ($550,000) company to be located approximately at 166th Avenue and 18th Street. The station may also provide service to part of this FPIA.

Stormwater and Environmental Issues: Fisher Creek is in a bowl-shaped area, much of it wetland. Avoiding wetland impacts or mitigating for them can add substantially to the cost of development. Camas has purchased property for a wetlands mitigation site, and the potential for regional mitigation banking in this area is good. Neither Fisher Creek nor North Dwyer Creek in this area provide habitat for listed salmon species. However, North Dwyer Creek and Lacamas Creek do provide cutthroat trout habitat.

The total cost for on-site treatment and disposal of stormwater and environmental mitigation within this potential investment area is estimated to be around $38.8 million.

Electricity: This potential investment area is large and has limited facilities. There will need to be two additional substations built to accommodate full commercial and industrial development within the area. The cost of each substation would be around $2 million. The total cost for the construction of additional electrical facilities (substations, distribution and transmission lines) is estimated to be $4.5 million.

SUMMARY OF COSTS

Table 20 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial land is considered, this would be $4,584 per job. If all vacant land in the area

that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $4,372.

Table 20: Summary of Infrastructure Costs for Fisher Swale FPIA

Infrastructure	Estimated Cost
Sewer	$9,108,143
Water	$6,710,661
Transportation	$10,500,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$38,844,373
Electrical	$4,475,000
Total	$69,638,177

FRUIT VALLEY

EXISTING LAND USES AND PARCELIZATION

This potential investment area is east of Vancouver Lake, northwest of downtown Vancouver, and north of the Port of Vancouver and is within Vancouver's UGA(Figure 11). Fruit Valley Road is the major transportation facility. The area contains a combination of residential areas—primarily smaller, older single-family detached homes along Fruit Valley Road—and light industrial manufacturing areas, located farther north along Fruit Valley Road. Parts of the western portion of this area are designated open space and zoned agriculture/open space to protect critical lands, primarily wetlands.

Within the Fruit Valley investment area there are 76 vacant parcels 5 acres or smaller; 10 vacant parcels between 5 and 10 acres; 6 vacant parcels between 10 and 20 acres.

POTENTIAL JOB CAPACITY

Table 21: Potential Job Capacity in Fruit Valley FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	5	1.79	12	22
Industrial	87	217.71	9	1,959
Other	0	0	0	0
Total from Vacant Land	***92***	***219.50***		***1,981***
Redevelopable land	***0***	***0***	***0***	***0***
Total Capacity	**92**	**219.50**		**1,981**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Nearly all of the job capacity would come from the development of vacant land zoned for industrial uses.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service to this area is provided by the City of Vancouver. Much of the sewer infrastructure is currently in place to serve new development in this area. The total cost of providing sewer service to new development is estimated to be about $658,000. This reflects costs associated with providing additional sewage treatment capability.

Water: Water service within this area is provided by the City of Vancouver. The total estimated cost of providing water service to this area is estimated to be about $565,000, reflecting only additional water supply costs.

Transportation: Jurisdictional responsibility for roads in the area belongs to the City of Vancouver. Intensity of development in this FPIA will adversely impact Fruit Valley Road/Lakeshore Avenue. Land west of Fruit Valley Road is not readily accessible from Fruit Valley Road, and does not have a good connection to the south (Fourth Plain Boulevard). A subarea plan for this FPIA should be developed to provide local east-west and north-south circulation. An extension of 39th Street to the west of Fruit Valley Road, connecting to 26th Avenue south to Fourth Plain (and to the Port area) would provide for arterial-level travel. A resolution to the 39th Street crossing of the Burlington Northern Santa Fe mainline which allows for 24-hour east-west travel should be implemented.

This FPIA currently experiences a high level of transit ridership, and if land uses west of Fruit Valley Road provide for good walk/bike accessibility to Fruit Valley Road, transit should continue to be a viable travel mode serving this FPIA. As Table 37 shows, transportation projects for the area include the

extension of W 39th Street and 26th Avenue and various improvements to the pedestrian and bike system. The total cost of these projects is estimated to be around $19.1 million.

Fire protection and emergency services: This area is within the boundaries of the City of Vancouver and Fire District 5. Fire protection and BLS emergency medical services are provided by the City of Vancouver Fire Department. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 43.6 acres (20 percent) located in the north one-half of the potential investment area.

The City of Vancouver Fire Department staff suggests that a new fire station ($1,500,000) with a single engine ($450,000) company should be located between Vancouver Fire Station 86 and Fire District 6's Station 1 to the north near Fruit Valley Boulevard in order to provide an average 5-minute response coverage for the potential investment area.

Stormwater and Environmental Issues: Much of the western portion of this potential investment area is identified as a critical area, with numerous wetlands. Portions of the area are also designated Open Space and zoned Agricultural/Open Space/Wildlife on the City of Vancouver's Zoning and Comprehensive Plan Map. Stormwater in this area would be detained and treated on site. Soils in the area are rich alluvial soils that drain well, but the water table is relatively high. As a result, on-site treatment and detention costs are calculated at $49,000 per acre for total costs of approximately $10.8 million.

Electricity: Since all of the additional load being generated within this area would come from industrial development, a new substation would be required, with the majority of feeders serving the new load. The total estimated cost of extending electrical service to serve projected industrial development is $2.6 million.

SUMMARY OF COSTS

Table 22 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. Considering the potential job capacity of vacant industrial and commercial land in the area, the cost per job would be $17,961. No significant redevelopable or other vacant land was identified in the Fruit Valley FPIA.

Table 22: Summary of Infrastructure Costs for Fruit Valley FPIA

Infrastructure	Estimated Cost
Sewer	$658,177
Water	$564,998
Transportation	$19,100,000
Fire and EMS	$1,950,000
Stormwater/Environmental mitigation	$10,755,598
Electrical	$2,550,000
Total	$35,578,773

LA CENTER JUNCTION

EXISTING LAND USES AND PARCELIZATION

The La Center Junction investment area is southwest of La Center and bisected by I-5 (Figure 12). This area is currently designated urban reserve (east of I-5) and agricultural, with an industrial urban reserve overlay. The city's comprehensive plan identifies the vacant land in the I-5 junction area as appropriate for business park, office, or light industrial uses that could provide higher wage job opportunities and provide an entranceway to the city. There are some residential properties within this area that are associated with agricultural activities.

The La Center Junction investment area contains 5 vacant parcels that are 5 acres or smaller; 4 vacant parcels between 5 and 10 acres; 7 vacant parcels between 10 and 20 acres; and 5 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 23: Potential Job Capacity in La Center Junction FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	2	24.32	12	292
Industrial	7	153.38	9	1,380
Other	12	199.93	9	1,781
Total from Vacant Land	***21***	***375.63***		***3,454***
Redevelopable land	***9***	***45.60***	***9***	***410***
Total Capacity	**30**	**421.23**		**3,864**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

The largest share — around 46 percent — of the job capacity would come from vacant land that would need to be rezoned to commercial or industrial uses. Job capacity on currently vacant industrial and commercial land equals 43 percent. Approximately 11 percent of the job capacity would come from redevelopment of currently underutilized parcels—mostly single-family homes on 5- or 10-acre lots.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer collection and treatment service for La Center and the surrounding area is provided by CPU, which accepted ownership, operation, and maintenance responsibilities for sewer service in 1992. The system consists of a collection network of piping from individual structures and a sewage treatment plant located at the southern edge of the city. Improvements to the system will be needed to accommodate the expected increase in population. Future development within this potential investment area would require additional planning work, as well as treatment plant capacity expansions and the extension of collection lines. Total estimated cost of sewer service to the area capable of supporting full industrial and commercial development is $5.4 million.

Water: As with sewer, public water service to La Center and the surrounding area is provided by CPU. The system is hydraulically connected to the CPU water network, which extends throughout much of the Clark County rural area. The storage need for La Center's system is provided by a 500,000-gallon reservoir in the northern portion of the city. Development within this potential public investment area would require the construction of new water distribution lines and additional supply. The total cost of estimated water service improvements to the area is $1.9 million.

Transportation: Responsibility for roads belongs to Clark County, the City of La Center, and WSDOT. Development at the junction would likely result in redesignation of La Center Road to an urban principal arterial with widening to multiple lanes, bike lanes, and sidewalks. If the development density and site layouts are transit- and pedestrian-oriented, bicycle trips to and from the Junction from the town core would be encouraged. Additionally, C-TRAN may find that extending fixed route service to serve the Junction as well as continuing town core service may be financially viable, especially coupled with service along the I-5 north corridor serving the Discovery Corridor and Ridgefield Junction employment centers. Table 37 shows those transportation projects that would support new development within this investment area. The total cost for these projects is estimated to be around $41 million.

Fire protection and emergency services: Fire District 12 provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 55.9 acres (20 percent) of the potential investment area at I-5 and La Center Road. Fire District 12 staff suggests widening NW 319th Street west of I-5 will improve access from Fire Station 12-5 serving the Highland area, and enable the District to support an average 5-minute response time throughout. The cost of widening NW 319th Street is estimated to be $1 million, but this project is already proposed as part of the $41 million of needed transportation improvements. No additional investments would therefore be required.

Stormwater and Environmental Issues: Within this potential investment area, McCormick Creek is in poor condition, making development near the creek problematic. Otherwise, this area does not have significant environmental constraints. Soils in the area drain well, and on-site detention and treatment of stormwater would cost approximately $25,000 per acre. The total cost of stormwater management for this area is estimated to be around $19.5 million.

Electricity: Electricity in Clark County is provided by CPU. In estimating the costs of extending electrical service to this area, the assumption was made that the Union Ridge substation would be built and functioning. However, additional substations would be needed. Costs would therefore be associated with the extension of lines and construction of new substations within this area. These total costs are estimated to be $4.2 million.

SUMMARY OF COSTS:

Table 24 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $42,987 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $34,516. If all vacant and underutilized land were designated for commercial and industrial development the cost per job would fall to $18,604.

Table 24: Summary of Infrastructure Costs for La Center Junction FPIA

Infrastructure	Estimated Cost
Sewer	$5,369,184
Water	$1,869,884
Transportation	$41,000,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$19,446,841
Electrical	$4,200,000
Total	$71,885,909

PORT OF CAMAS-WASHOUGAL

EXISTING LAND USES AND PARCELIZATION

This potential investment area is southeast of downtown Washougal and is bounded by the Columbia River to the south and SE Evergreen Way to the north (Figure 13). Most of the area is within Washougal's UGA and contains a variety of land uses. Residential uses, primarily urban low and medium residential development, can be found in an area between SR-14 and SE Evergreen Way. Light industrial and commercial development (which includes Burlington Environmental, Inc.) is found to the west of this residential area. South of SR-14 is the Port of Camas-Washougal industrial park. Surrounding much of the industrial area is land that has been designated as park and open space. Also within this potential investment area are the city's wastewater treatment plant and Gibbons Creek.

Within the Port of Camas-Washougal investment area are 94 vacant parcels 5 acres or smaller; 5 parcels between 5 and 10 acres; no vacant parcels between 10 and 20 acres; and 6 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 25: Potential Job Capacity in Port of Camas-Washougal FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	70	18.33	12	220
Industrial	13	285.48	9	2,569
Other	22	58.39	9	525
Total from Vacant Land	***105***	***362.19***		***3,315***
Redevelopable land	***12***	***63.44***	***9***	***571***
Total Capacity	**117**	**425.63**		**3,886**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

The majority of the vacant land is in the eastern portion of this investment area, adjacent to the Columbia Gorge National Scenic Area.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: There are existing sewer lines within the potential investment area. The total estimated cost of providing sewer service to projected industrial and commercial development is about $3.1 million, which related to costs of treatment facility upgrades. Currently, one treatment plant is used to treat the city's wastewater within the Washougal UGA.

Water: The total estimated cost of water service improvements to serve projected commercial and industrial development is $3.6 million. This figure reflects mostly water supply costs, including a looped water line to increase fireflow. The loop could be eliminated if water flows are adequate for new commercial and industrial development. This would reduce costs per job by about $100.

Transportation: Three agencies have responsibility for roads: City of Camas, the City of Washougal, and WSDOT. Development in this FPIA will likely impact SR-14 through Washougal as well as 15th Street in downtown Washougal and NW 6th Avenue in downtown Camas. A high level of truck traffic will serve uses in the Port area. The remoteness of this site from existing transit routes discourages transit service within this FPIA. Intersection improvements and possibly interchanges with SR-14 should be provided. Table 37 lists improvements to transportation facilities to support projected industrial and

commercial development in the Port of Camas-Washougal investment area. The total cost for these projects is estimated to be around $51.1 million.

Fire protection and emergency services: This area is within the boundaries of the City of Washougal and Fire District 1. Fire protection and BLS emergency medical services are provided by the City of Washougal and Fire District 1. The Camas Fire Department provides advanced life support (ALS) service to the City of Camas, City of Washougal, and Fire District 1. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 26.2 acres (10 percent) at the southeast end of the potential investment area.

The travel time analysis from the traffic model indicates 10 percent of the potential investment area may be outside a 5-minute response area, but the Fire Chief of the City of Washougal indicates that the average response time is, in fact, 5 minutes or less from the City's fire station located at 1400 "A" Street. As a result, no additional public investment is planned for fire protection and emergency medical services in the Port of Camas/Washougal potential investment area.

Stormwater and Environmental Issues: Much of this area is designated as critical lands and contains extensive palustrine wetlands. The significant size of these critical areas is due to the fact that this area was once the Steigerwald Slough until it was diked by the US Army Corps of Engineers in 1966 at the request of the Port of Camas-Washougal. Wetlands in this area are predominately distributed between the lands within the Steigerwald Wildlife Refuge and the low-lying area along the Columbia River, owned by the Port of Camas-Washougal. The area is a good candidate for regional mitigation banking. Total estimated costs are about $9 million.

Electricity: Electrical lines extend into the potential investment area. The circuitry route is along roads and crosses private property. Most distribution lines within the city originate from a single substation south of and adjacent to SR-14, across from the 39th Street terminus. A typical distribution substation serves a four-square mile area of residential and commercial customers. A new substation will be needed for this investment area if any large industrial loads are added. The total cost of providing electrical service to projected commercial and industrial development within this area is estimated to be $4.4 million.

SUMMARY OF COSTS

Table 26 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. Considering only the potential job capacity of vacant industrial and commercial land, the cost per job would be $25,555. Including potential capacity of underutilized land in the area would drop the cost per job to $21,213. If all vacant and redevelopable land in the area that is currently zoned for other uses were designated for industrial or commercial use, the cost per job would be $18,344.

Table 26: Summary of Infrastructure Costs for Port of Camas-Washougal FPIA

Infrastructure	Estimated Cost
Sewer	$3,106,880
Water	$3,553,680
Transportation	$51,100,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$9,117,875
Electrical	$4,400,000
Total	$71,278,435

PORT OF VANCOUVER

EXISTING LAND USES AND PARCELIZATION

The Port of Vancouver investment area is west of downtown Vancouver, south of Vancouver Lake, with the Columbia River to the south and NW Lower River Road to the north (Figure 14). The area is within Vancouver's UGA and is designated Heavy Industrial on the City of Vancouver's Zoning and Comprehensive Plan Map. Most of the area around the Vanalco aluminum smelter is developed. CPU's River Road cogeneration plant is also located in this area and provides about half the power to Clark County. There is little development in the northern portion of this investment area.

This investment area is the location for the Columbia Gateway, a piece of undeveloped property that includes around 1,200 acres of industrially zoned land adjacent to SR 501, between Vancouver Lake and the Columbia River although only about 600 acres is expected to develop, according to discussion with Port staff. The Port of Vancouver has undertaken the Columbia Gateway project to develop a strategic master plan for this area that meets the long-term economic, infrastructure, marine, and industrial land needs for the Port of Vancouver, Clark County, and the region.

The Port of Vancouver investment area contains 9 vacant parcels 5 acres or smaller; 2 vacant parcels between 5 and 10 acres; 4 vacant parcels between 10 and 20 acres; and 5 vacant parcels over 20 acres.

POTENTIAL JOB CAPACITY

Table 27: Potential Job Capacity in Port of Vancouver FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	0	0	0	0
Industrial	20	676	9	6,087
Other	0	0	0	0
Total from Vacant Land	***20***	***676***		***6,087***
Redevelopable land	***0***	***0***	***0***	***0***
Total Capacity	**NA**	**676**		**6,087**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

All new jobs capacity would come from the development of currently vacant industrial land. Estimates of the potential job capacity for the Columbia Gateway area come from the subarea planning work that has been done for the project.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service currently does not extend south of NW Lower River Road. A new collection line would be needed parallel to and between the road and the river. The total cost of extending sewer service to projected industrial development in this area is estimated to be $3.7 million. This number reflects costs associated with providing treatment facilities and parcel service.

Water: The total estimated cost of extending water service to projected industrial development within the area is $2.5 million. This number reflects costs associated with the extension of water lines and with providing additional water supply. Additionally, supplemental fire flow from the Columbia River may be needed for some industries.

Transportation: The City of Vancouver has jurisdiction over roads in the area. Only one route (Fourth Plain/Lower River Road) serves this FPIA. The layout of land uses and the heavy industrial nature of this

area do not lend themselves to a high level of transit ridership. Improvements to transportation facilities would be limited to the upgrade of NW Lower River Road and the bike and pedestrian system. The total cost of these projects is estimated to be around $14.8 million.

Fire protection and emergency services: The City of Vancouver Fire Department provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is currently not provided to 571.7 acres (85 percent) of the potential investment area. The City of Vancouver Fire Department is planning to construct a new fire station ($1.5 million) with a single engine ($550,000) company to be located within the Port of Vancouver potential investment area in order to provide an average 5-minute response coverage.

Stormwater and Environmental Issues: The area south of the flushing channel, where most new development is proposed, has substantial wetlands. North of the channel the land has been used for the disposal of dredge spoils and agriculture. Much of this area has also been identified as critical area, with numerous wetlands. The nearby Columbia River provides shallow water habitat, but is not the deep-water channel. Since the river provides important habitat to several listed species of anadromous fish, further industrial development within the area has the potential to negatively impact this habitat and create development costs and permitting challenges.

Soils in the area are largely rich alluvial deposits that drain well but are interspersed with wetlands. The river frontage is mostly shallow-water habitat and considered more valuable than the area developed with port facilities so there will be a higher mitigation cost/bigger buffer requirement. Stormwater management would consist of on-site treatment and detention before being pumped over the dike to the Columbia River. The total cost of stormwater management for this area is estimated to be around $33 million.

Electricity: Multiple variables make it difficult to estimate the costs associated with providing electrical service to this potential investment area. There is a significant lack of substation capacity to support projected industrial development within the area and a new substation will ultimately need to be built. The exact location of new development and load density will also influence costs. The total cost of extending electrical service to projected development within this area is estimated to be $7.1 million.

SUMMARY OF COSTS

Table 28 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. The cost per job on the vacant industrial land would be $10,401.

Table 28: Summary of Infrastructure Costs for Port of Vancouver FPIA

Infrastructure	Estimated Cost
Sewer	$3,717,895
Water	$2,514,304
Transportation	$14,800,000
Fire and EMS	$2,050,000
Stormwater/Environmental mitigation	$33,124,000
Electrical	$7,100,000
Total	$63,306,199

RIDGEFIELD JUNCTION

EXISTING LAND USES AND PARCELIZATION

This large area covers much of the eastern portion of Ridgefield (Figure 15). A part of the area also extends north of the current Ridgefield UGA. This potential investment area contains a variety of land use designations, including general commercial, light industrial, office/business park, urban low-density, and rural. The city's comprehensive plan identifies the Ridgefield Junction area as the location for future commercial and industrial growth. There are some older single-family detached homes within the area, although there are no residential subdivisions. Most commercial development is east of I-5, along 56th Street and Sixth Street. Most of the land within this area, however, is farmland.

The Ridgefield Junction investment area has 26 vacant parcels that are 5 acres or smaller; 14 vacant parcels between 5 and 10 acres in size; 15 vacant parcels between 10 and 20 acres; and 12 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 29: Potential Job Capacity in Ridgefield Junction FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Industrial	34	467.27	9	4,205
Other	33	259.29	12	3,111
Total from Vacant Land	***67***	***726.56***		***7,317***
Redevelopable land	***72***	***900.94***	***9***	***8,108***
Total Capacity	**139**	**1,627.50**		**15,425**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Over half of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels (mostly farms of single-family homes on larger lots). The majority of the vacant land is east of the freeway interchange.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service is provided by the City of Ridgefield, although a portion is not in any sewer service provider's area. There is currently a 6-inch diameter force main from the Ridgefield Junction into the city proper. The force main discharges to a gravity sewer main, which runs through the city to the wastewater treatment plant. An important issue is extending the sewer to serve the entire junction area. The total estimated cost of sewer service improvements that would support projected commercial and industrial development within this area is estimated to be $15.2 million. This figure includes costs associated with providing expanded sewage treatment and collection facilities, as well as the extension of lines to new development.

Water: The city's water system includes the main system, which serves the city proper, and three remote systems, the most significant of which is in the Ridgefield Junction area. This system was constructed in 1986 to serve the industrial park located at the junction. The system includes a well, a 100,000-gallon ground-level reservoir, and around 2,000 feet of distribution mains. New facilities and upgrades to this system will need to occur to accommodate projected commercial and industrial development within the investment area. The total cost of water service improvements to the area is estimated to be close to $6 million, reflecting costs associated with improvements to the water supply (new wells), distribution, storage, and parcel service.

Transportation: Clark County, the City of Ridgefield, and WSDOT have jurisdiction over roads in the area. Transportation investments should be coordinated with the Discovery Corridor and La Center Junction FPIAs, if implemented. New crossings of I-5 both south and north of the Ridgefield interchange should be provided for local circulation and to alleviate congestion on SR-501/Pioneer Street at the interchange. If the County advances the frontage road concept adjacent to I-5, a major reconfiguration of the Ridgefield interchange to provide access to the frontage roads (as well as the new crossings of I-5) should be examined as part of a subarea study.

The existing Ridgefield Park-and-Ride should be retained and expanded. This will serve Ridgefield residents commuting to destinations south of Ridgefield (Vancouver and Portland) as well as north (Kelso/Longview). Additionally, it could serve as the northern terminus of a light rail extension serving the Discovery Corridor and Vancouver. (LRT improvements are not included in transportation costs.) Transportation projects have been identified to support projected commercial and industrial development and are listed in Table 37. The total cost of improvements to transportation facilities within this area is estimated to be around $168.4 million.

Fire protection and emergency services: Fire District 12 provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less coverage is currently not provided to 459.4 acres (36 percent) of the potential investment area.

Fire District 12 is already planning to rebuild and expand Fire Station 12-1 (26506 NE 10th Avenue, Ridgefield) within one to two years from 3 bays to 5 bays, and increase the square footage from 5,100 square feet to 15,000 square feet. The cost is estimated at $3,000,000 for the new station and $300,000 for land acquisition. In addition, the District has purchased a new ladder truck ($500,000), which is scheduled to be delivered in one month. The new station, which serves the Pioneer area, will include a pumper truck, ladder truck, water tender, and rescue unit. The additional open bay will be reserved for an additional pumper truck to be purchased in the near future. Fire District 12 staff also suggests minimizing the number of new traffic signals on Pioneer west of I-5 as new growth occurs will enable an average 5-minute response time to be sustained. In order to serve the area further south of Ridgefield Junction, Fire District 12 plans to add a new pumper truck ($280,000) in the near future at Fire Station 15-1 (505 NW 179th Street). This station operates under a tri-party contract agreement among Fire Districts 6, 11, and 12. The total cost would be $3.6 million.

The expansion of existing stations will improve response time if "opticom" traffic signal switches are installed on district fire apparatus. The cost of opticom traffic signal switches is estimated to be $4,000 per traffic signal and $1,000 per fire apparatus. (These costs are not included in the total.)

Stormwater and Environmental Issues: Soils generally drain poorly, making stormwater mitigation costs higher and the total cost for stormwater management around $68.7 million. Streams and watersheds that could be impacted by stormwater runoff from new commercial and industrial development within this area include Allen Creek and McCormick Creek, which are part of the East Fork Lewis River watershed, and Gee Creek, which is part of the Lake River watershed. Gee Creek provides habitat for listed coho salmon and steelhead, and ESA-compliance issues could emerge if this stream were negatively impacted by runoff from new development.

Electricity: Cost estimates for extending electrical service to this investment area assume that the Union Ridge substation will be built and functioning. An additional substation will be needed due to transformer capacity concerns, and at least two feeders will be needed to serve new development within this area. The total estimated cost of providing electrical service to this area is around $6.9 million.

SUMMARY OF COSTS

Table 30 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial land is considered, this would be $63,900 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $21,823. If all vacant and redevelopable land were designated for industrial and commercial uses, the cost per job would be $17,421.

Table 30: Summary of Infrastructure Costs for Ridgefield Junction FPIA

Infrastructure	Estimated Cost
Sewer	$15,150,000
Water	$5,970,700
Transportation	$168,400,000
Fire and EMS	$3,580,000
Stormwater/Environmental mitigation	$68,677,364
Electrical	$6,950,000
Total	$268,728,064

ST. JOHNS CORRIDOR

EXISTING LAND USES AND PARCELIZATION

The St. Johns Corridor FPIA is just outside the Vancouver city limits and is bounded by NE 60th Street to the south, NE 26th Street to the west, NE 119th Street to the north, and NE 87th Street to the east (Figure 16). The area is within Vancouver's UGA and is rapidly urbanizing. Much of this area has been designated urban low- and medium-density residential, and many residential developments are found throughout the area. There are pockets of commercial and light industrial development, and much of the area has been designated for future light industrial use. Located at the very southwestern corner is the BPA's Ross Complex, which is an active power distribution facility that coordinates the distribution of hydroelectric power to areas throughout the Pacific Northwest.

The St. Johns Corridor investment area has 141 vacant parcels 5 acres or smaller; 24 vacant parcels between 5 and 10 acres; 7 vacant parcels between 10 and 20 acres; and 4 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 31: Potential Job Capacity in St. Johns Corridor FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial	20	29.012	12	348
Industrial	108	430.185	9	3,872
Other	48	195.12	9	1,756
Total from Vacant Land	***176***	***654.317***		***5,976***
Redevelopable land	***222***	***507.73***	***9***	***4,570***
Total Capacity	**398**	**1,162.05**		**10,545**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Approximately 43 percent of the job capacity in this potential investment area would come from redevelopment of currently underutilized parcels (mostly single-family homes on 5- or 10-acre lots). Another 17 percent of job capacity is estimated for vacant land requiring rezoning to commercial or industrial uses.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Several Hazel Dell basins (14, 37, 38, 39, and 45) and part of the Vancouver area comprise the sewer system in this investment area. Sewage is treated at both Clark County's Salmon Creek Wastewater Treatment Plant and Vancouver's Westside Wastewater Treatment Plant. The total estimated cost of providing sewer service to support projected commercial and industrial development within this area is $10.6 million. This figure reflects costs associated with facility upgrades for sewage treatment, collection, and parcel service.

Water: Water service is provided by the City of Vancouver. The total estimated cost of extending water service is $3.6 million for water supply investments and improvements to the distribution system.

Transportation: Jurisdictional responsibility for roads within this area extends to Clark County, the City of Vancouver, and WSDOT. More intense development within this FPIA will add traffic congestion to St. Johns both north and south of 78th Street. The Padden Parkway runs through the center of the FPIA and becomes a barrier to north-south local circulation. A local circulation system, similar to that being considered by Clark County, should be adopted and implemented with development. Table 37 lists

transportation projects to support the development of vacant and underutilized parcels. The total cost of these projects is estimated to be around $61.2 million.

Fire protection and emergency services: Although this area is within Fire District 5 boundaries, fire protection and BLS emergency medical services are provided by the City of Vancouver Fire Department under a contract agreement with Fire District 5. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to more than 97 percent of this geographic area. No public investment is required for fire protection and emergency medical services.

Stormwater and Environmental Issues: For most of this investment area, soils do not drain well and the infiltration potential is low, making stormwater management more expensive. Infiltration may be possible in a limited area in the southern portion. The depth to groundwater varies, but generally it is very shallow, which also makes the construction of buildings and infrastructure more expensive. At an estimated cost of $49,000 per acre, the total cost for detention and treatment of stormwater within the investment area is $49.1 million.

Streams and watersheds that could be impacted by new development include Curtin and Lalonde Creeks, which are in poor condition and are a part of the Salmon Creek watershed, and Cold Creek, which is in fair condition for the portion that is not piped and is part of the Burnt Bridge Creek watershed. Wetland areas and wetland mitigation sites are also found within this investment area. Some are high-value wetlands and mitigation costs would be high.

Electricity: Multiple variables make it difficult to estimate the cost of extending electrical service to accommodate commercial and industrial development within this area. There is a significant lack of substation capacity to serve predicted industrial growth and as many as three substations may be necessary to accommodate the additional load. Multiple options are available, and costs depend on the location and load density of new development. Nevertheless, it is estimated that the total cost for expanding electrical service in this area will likely be around $6.8 million.

SUMMARY OF COSTS

Table 32 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $31,113 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $14,937. If all vacant and redevelopable land were designated for industrial and commercial uses, the cost per job would be reduced further to $12,450.

Table 32: Summary of Infrastructure Costs for the St. Johns Corridor FPIA

Infrastructure	Estimated Cost
Sewer	$10,584,416
Water	$3,575,804
Transportation	$61,200,000
Fire and EMS	$0
Stormwater/Environmental mitigation	$49,130,501
Electrical	$6,800,000
Total	$131,290,721

VANCOUVER MALL

EXISTING LAND USES AND PARCELIZATION

A portion of the Vancouver Mall investment area is within the city's municipal boundary. This area is largely urbanized, with significant commercial development along SR-500 including the Vancouver Mall (Figure 17). A significant portion, one that includes the Royal Oaks Country Club and the corridor of Burnt Bridge Creek, is designated Park and Open Space. Single-family detached homes in established subdivisions, as well as apartment buildings are found throughout the area. Higher-density residential development tends to be located adjacent to the SR-500 corridor.

The Vancouver Mall investment area contains 119 vacant parcels 5 acres or smaller; 4 vacant parcels between 5 and 10 acres; and no parcels over 10 acres.

POTENTIAL JOB CAPACITY

Table 33: Potential Job Capacity in Vancouver Mall FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Commercial/Office	82	51.21	20	1,024
Industrial/Business Park	1	0.94	20	19
Other	40	89.43	20	1,789
Total from Vacant Land	***123***	***141.58***		***2,832***
Redevelopable land	***12***	***21.47***	***20***	***429***
Total Capacity	**135**	**163.05**		**3,261**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

Approximately 13 percent of the job capacity within this FPIA would come from the redevelopment of underutilized parcels. Around 87 percent would come from the development of currently vacant parcels, most of which are smaller lots. The majority of vacant land is near the interchange with I-205, although vacant lots are scattered throughout the area. Job capacity on vacant land requiring rezoning represents about 55 percent of total job capacity.

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: The Vancouver Mall area is already served by utilities. The total estimated cost for the provision of sewer service in this area is $960,000, and this cost reflects only the need to expand treatment facilities. Currently, wastewater from this area is treated at Clark County's Salmon Creek Wastewater Treatment Plant and the City of Vancouver's Westside Wastewater Treatment Plant.

Water: Since much of the basic water infrastructure in this area is already in place, water system improvement costs are associated primarily with ensuring an adequate water supply. These costs would be paid for by new development. The total cost for improving water supply is estimated to be about $840,000.

Transportation: Responsibility for roads belongs to the City of Vancouver and WSDOT. This area is building out with mixed uses, including office, commercial, and multifamily residential. Publicly-funded transportation investments to accommodate increased trip making include an interconnected pedestrian and bikeway system, as well as providing access to transit. Consideration should be made to extend Vancouver Mall Drive west of Andresen Road to NE 66th Avenue to provide a circulation alternative to NE 40th Street. An interchange is being planned for NE 54th Avenue/Stapleton Road at SR-500; a local circulation and collector system between this interchange, north and east to Andresen Road within the

FPIA should be planned and implemented with new development. Transportation improvements to support projected commercial and industrial development are listed in Table 37. The total cost of improvements is estimated to be around $4.7 million.

Fire protection and emergency services: This area is within the boundaries of the City of Vancouver and Fire District 5. Fire protection and BLS emergency medical services are provided by the City of Vancouver Fire Department. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less is provided to more than 98 percent of this geographic area.

The City of Vancouver Fire Department is already planning to construct a new fire station ($1,500,000) with a single engine ($550,000) company to be located approximately at 166th Avenue and 18th Street. The station is intended to serve several areas, including the Vancouver Mall and Fisher Swale potential investment areas. The City anticipates that the new station will provide an average 5-minute response coverage.

Stormwater and Environmental Issues: Costs per acre for mitigation of stormwater and environmental impacts are expected to be on the low side due to the extent of development in the area and presence of existing systems. The total cost is estimated to be $2.7 million.

Electricity: This investment area has enough electrical capacity to accommodate the additional loads generated by projected commercial and industrial development. No significant problems or deficiencies should be encountered and no additional substations would be needed. The total estimated cost for extending electrical service within this area is around $400,000.

SUMMARY OF COSTS

Table 34 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. If only the potential job capacity of vacant industrial and commercial land is considered, this would be $11,156 per job. However, there is some potential for redevelopment of underutilized land in the area, and if this is included, the cost per job drops to $7,903. If all vacant and redevelopable land in the area were designated for commercial and industrial use, the cost per job would fall to $3,568.

Table 34: Summary of Infrastructure Costs for Vancouver Mall FPIA

Infrastructure	Estimated Cost
Sewer	$956,974
Water	$839,381
Transportation	$4,700,000
Fire and EMS	$2,050,000
Stormwater/Environmental mitigation	$2,690,025
Electrical	$400,000
Total	$11,636,380

WSU INDUSTRIAL/RESEARCH PARK

EXISTING LAND USES AND PARCELIZATION

The WSU Industrial/Research Park investment area is between the Discovery Corridor and Battle Ground investment areas (Figure 18). It is roughly bounded by NE 179th Street to the north, NE 159th Street to the south, NE 72nd Avenue to the east, and NE 40th Avenue to the west. Part of this investment area is within Vancouver's UGA and a portion is in unincorporated Clark County. This is largely an undeveloped area that has some single-family residences on large lots. There are also large forested areas in the middle and western portions of this area. Numerous ponds and wetlands can be found throughout the area and Mill Creek crosses its northwestern corner. Some agricultural production also occurs within this area. Land use designations include agricultural, urban reserve, office/business park, rural residential, and urban low-density.

The WSU Industrial/Research Park investment area contains 4 vacant parcels that are 5 acres or smaller; 3 vacant parcel between 5 and 10 acres; 3 vacant parcels between 10 and 20 acres; and 2 vacant parcels larger than 20 acres.

POTENTIAL JOB CAPACITY

Table 35: Potential Job Capacity in WSU Industrial/Research Park FPIA

Vacant Land	*Parcels*	*Acres*	*Jobs/Acre*	*Total Jobs*
Other	12	179.50	20	3,590
Total from Vacant Land	***12***	***179.50***		***3,590***
Redevelopable land	***12***	***189.10***	***20***	***3,782***
Total Capacity	**24**	**368.60**		**7,372**

Source: DEA calculations from Clark County Department of Assessment & GIS data, as amended by field observations, 2002.

About half of the job capacity would come from redevelopment of currently underutilized parcels (mostly single-family homes on 5- or 10-acre lots). Vacant land in the area is not currently designated for commercial or industrial use, although its eventual development with such uses was envisioned in the 1994 Clark County *20-Year Comprehensive Growth Management Plan.*

NEEDED INFRASTRUCTURE INVESTMENTS

Sewer: Sewer service is provided by the Hazel Dell Sewer District and wastewater is discharged to Clark County's Salmon Creek Wastewater Treatment Plant. A portion of this area is outside the service provider's area. The total cost of providing sewer facilities adequate to accommodate projected development in this area is estimated to be $7.4 million. Costs are for treatment, collection, and the extension of sewer lines to parcels.

Water: Water service is provided by CPU. The total estimated cost of extending water service to this area adequate to support projected commercial and industrial development is around $1.9 million. This reflects costs associated with improving water supply in the area.

Transportation: Jurisdictional responsibility for roads in the area belongs to Clark County. Local street circulation should be planned and implemented with new development. This area is not readily accessible by transit. Public transportation investments could include widening of NE 179th Street to four lanes, NE 29th Avenue to two lanes plus a center turn lane, and NE 50th Avenue to four lanes in the area, as well as providing for on-street bike lanes and sidewalks to connect the FPIA with the established Mount Vista, Salmon Creek, and WSU areas. The on-street facilities on NE 179th Street will allow for connections to

the planned 179th Street Park-and-Ride near the Clark County Fairgrounds, as well as the Salmon Creek Transit Center. Transportation improvements within this area that would support the development of vacant and underutilized are listed in Table 37. The total cost of these projects is estimated to be around $78.1 million.

Fire protection and emergency services: Fire District 11 provides fire protection and BLS emergency medical services to this area. Analysis of emergency response time to the potential investment area shows that an average response time of 5 minutes or less coverage is currently not provided to 259.9 acres (85 percent) of the potential investment area.

For the south area of Fire District 11 with borders between 199th Street (north) and 149th Street (south) and 137th Avenue (east) and 87th Avenue (west), Fire District 11 staff recommends (1) the extension of 179th Street east-west from 137th Avenue to 102nd Avenue at Cramer Road, and (2) addition of a new fire station ($1,500,000) with a pumper truck ($280,000) at approximately 122nd Avenue and 159th Street. The addition of this fire station would also improve 5-minute response coverage to the Battle Ground potential investment area, as would the addition of a ladder truck within 3 years at the City of Battle Ground fire station. The cost of extending 179th Street from NE 122nd Avenue to NE 137th Avenue is estimated to be $2.4 million. (Extending 179th from NE 102nd Avenue to NE 122nd Avenue is already proposed as a transportation improvement.) Total costs for fire protection and emergency services would be $4.1 million.

Stormwater and Environmental Issues: Soils in this area generally do not drain well, the infiltration potential is low, and the depth to groundwater varies but is mostly shallow. This will make stormwater disposal difficult and pumps may be required. On-site detention and treatment of stormwater would be relatively expensive, making the total cost of stormwater management for the area around $14.6 million.

Streams and watersheds within this area that could be impacted by stormwater runoff include Mill Creek and "Leaper" Creek, both of which are in fair condition and part of the Salmon Creek watershed. There are numerous wetlands and ponds within this area, which could make development difficult in most of this investment area. These areas would provide an opportunity for regional mitigation banking.

Electricity: Much of the cost of extending electrical service to this area would come from an upgrade of distribution lines. Existing wires are small and are inadequate to serve projected development. No additional substations would be needed. The total estimated cost of extending electrical service is $225,000.

SUMMARY OF COSTS

Table 36 summarizes the cost of bringing vacant and underutilized land in this area up to the level that CREDC believes necessary to enable the County to compete for prime industries. No vacant industrial or commercial land was identified for potential jobs. Redevelopment of underutilized land in the area would have a cost per job of $28,138. If vacant land designated for other uses and underutilized land were designated for industrial and commercial development, the cost per job would be $14,435.

Table 36: Summary of Infrastructure Costs for WSU Industrial/Research Park FPIA

Infrastructure	Estimated Cost
Sewer	$7,390,569
Water	$1,923,452
Transportation	$78,100,000
Fire and EMS	$4,180,000
Stormwater/Environmental mitigation	$14,599,120
Electrical	$225,000
Total	$106,418,141

Table 37: Transportation Projects for FPIAs

									Financial Shares			
FPIA	City/County (FPIA Name)	Road	From	To	Project Type	No of new Lanes	Total Cost	Rounded	WSDOT	Grant	Local	Private
117th Avenue												
117th Avenue	117th FPIA	NE 130th Ave	NE 76th St	NE 99th St	Upgrade	2	$4,232,538	$4,200,000	$0	$0	$1,680,000	$2,520,000
117th Avenue	117th FPIA	NE 130th Ave	NE 99th St	NE 119th St	New Road	2	$4,056,932	$4,100,000	$0	$0	$820,000	$3,280,000
117th Avenue	117th FPIA	NE 107th Ave	NE 76th St	NE 99th St	Upgrade	2	$4,160,568	$4,200,000	$0	$0	$840,000	$3,360,000
117th Avenue	117th FPIA	NE 94th Ave	NE 99th St	NE 119th St	New Road/Upgrade	2	$3,756,098	$3,800,000	$0	$0	$760,000	$3,040,000
117th Avenue	117th FPIA	NE 107th St	NE 99th Ave	NE 130th Ave	New Road/Upgrade	2	$6,616,174	$6,600,000	$0	$0	$1,320,000	$5,280,000
117th Avenue	117th*				Bike/Pedestrian/ Nbhd			$1,000,000		$200,000	$800,000	
117th Avenue	County	NE 142nd Ave	NE 99th St	NE 119th St	New Road	3	$5,653,580	$5,700,000	$0	$0	$570,000	$5,130,000
117th Avenue	WSDOT	SR-503	SR-500/Fourth Plain	119th Street	Widen to 6 lanes		$40,000,000	$40,000,000	$40,000,000		$0	
TOTAL							**$68,475,890**	**$69,600,000**	**$40,000,000**	**$200,000**	**$6,790,000**	**$22,610,000**
136th Avenue												
136th Avenue	136th Avenue	NE 4th St	SE Mill Plain Blvd	NE 148th Ave	New Road/Upgrade	2	$4,904,015	$4,900,000	$0	$0	$490,000	$4,410,000
136th Avenue	136th Avenue	NE 9th St	134th Avenue	Hearthwood	Complete collector	3	$2,850,000	$2,900,000	$0	$0	$580,000	$2,320,000
136th Avenue	136th Avenue	NE 18th Street	112th Ave.	162nd Ave.	Upgrade	5	$23,750,000	$23,800,000	$0	$7,140,000	$4,760,000	$11,900,000
136th Avenue	136th Avenue				Bike/Pedestrian/Nghd			$500,000		$100,000	$400,000	
TOTAL							**$31,504,015**	**$32,100,000**	**$0**	**$7,240,000**	**$6,230,000**	**$18,630,000**
164th Avenue												
164th Avenue	164th FPIA	NE 9th St/NE 13th St	NE 162nd Ave	NE 192nd Ave	New Road	2	$5,791,402	$5,800,000	$0	$0	$1,160,000	$4,640,000
164th Avenue	164th FPIA	NE 18th St.	NE 162nd Ave	NE 192nd Ave	Upgrade	4	$11,582,803	$11,600,000	$0	$3,480,000	$2,320,000	$5,800,000
164th Avenue	164th FPIA	Aprox. NE 183rd Ave	NE 18th St	Mill Plain (proposed)	New Road	2	$4,793,182	$4,800,000	$0	$0	$480,000	$4,320,000
164th Avenue	164th FPIA	North of proposed NE 9th St/NE 13th St	Aprox. NE 183rd Ave	NE 187th Ave	New Road	2	$1,369,583	$1,400,000	$0	$0	$140,000	$1,260,000
164th Avenue	164th FPIA	NE 182nd Ave.	Mill Plain	NE 18th St.	New Road	2	$5,320,000	$5,300,000	$0	$0	$530,000	$4,770,000
164th Avenue	County	NE 11th St	NE 162nd Ave	NE 150th Ave	New Road	2	$2,539,811	$2,500,000	$0	$0	$250,000	$2,250,000
164th Avenue	164th FPIA	SE 164th	SR-14	Mill Plain	Traffic Controls		$1,000,000	$1,000,000		$700,000	$300,000	
164th Avenue	County	SE 1st St	NE 148th Ave	SE 164th Ave	New Road/Upgrade	2	$3,095,417	$3,100,000	$0	$930,000	$1,240,000	$930,000
164th Avenue	164th FPIA	SE Mill Plain Blvd	SE 172nd Ave	NE 192nd Ave	New Road	5	$9,348,864	$9,300,000	$0	$3,720,000	$1,860,000	$3,720,000
164th Avenue	164th FPIA	SE 20th St	SE 192nd Ave	SE McGillivray Blvd	Upgrade	2	$6,182,917	$6,200,000	$0	$1,860,000	$620,000	$3,720,000
164th Avenue	164th FPIA	SE 172nd Ave	SE Mill Plain Blvd	SE 15th St	New Road	2	$857,159	$900,000	$0	$0	$90,000	$810,000
164th Avenue	164th FPIA	SE 172nd Ave/SE Tech Center Drive	SE Mill Plain Blvd	SE 164th Ave	New Road	2	$2,780,909	$2,800,000	$0	$0	$280,000	$2,520,000
164th Avenue	164th FPIA	SE 176th Ave	SE 15th St	SE 34th St	Upgrade	2	$3,486,932	$3,500,000	$0	$0	$350,000	$3,150,000
Columbia Tech Center	Columbia Tech Center							$500,000		$100,000	$400,000	
164th Avenue	164th				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
TOTAL							**$58,148,977**	**$59,700,000**	**$0**	**$10,990,000**	**$10,820,000**	**$37,890,000**
Battle Ground												
Battle Ground	County	NE 239th	NE 92nd	NE 112th	Upgrade	2	$3,794,962	$3,800,000	$0	$0	$3,800,000	$0
Battle Ground	Battle Ground	NE 92nd	NE 179th	SR-502	Extension	2	$4,877,386	$4,900,000	$0	$0	$4,900,000	$0
Battle Ground	Battle Ground	NE 92nd	SR-502	NE 239th St	Upgrade	2	$5,735,265	$5,700,000	$0	$0	$5,700,000	$0
Battle Ground	Battle Ground	NE 102nd	11th St.	SR-502	New Road	3	$3,420,000	$3,400,000	$0	$0	$680,000	$2,720,000
Battle Ground	Battle Ground	NE 102nd	SR-502	NE 239th St	New Road/Upgrade	3	$4,560,000	$4,600,000	$0	$0	$920,000	$3,680,000
Battle Ground	Battle Ground	NE 132nd Ave./Parkway	NE 199th St.	Main St.	Upgrade	2	$2,660,000	$2,700,000	$0	$810,000	$540,000	$1,350,000
Battle Ground	Battle Ground	NE 142nd Ave./Grace	NE 199th St.	Main St.	Upgrade	2	$4,560,000	$4,600,000	$0	$0	$2,300,000	$2,300,000

FPIA	City/County (FPIA Name)	Road	From	To	Project Type	No of new Lanes	Total Cost	Rounded	WSDOT	Grant	Local	Private
Battle Ground	Battle Ground FPIA	NE 156th	NE 102nd Ave	NE 149th St	Realignment	2	$3,353,068	$3,400,000	$0	$0	$680,000	$2,720,000
Battle Ground	Battle Ground FPIA	NE 179th	NE 102nd Ave	NE 122nd Ave	New Road	2	$3,795,682	$3,800,000	$0	$0	$760,000	$3,040,000
Battle Ground	Battle Ground FPIA	NE 199th	SR-502	Railroad	Upgrade	3	$7,410,000	$7,400,000	$0	$2,960,000	$2,220,000	$2,220,000
Battle Ground	Battle Ground FPIA	Manley Rd/92nd Ave	SR-502	NE 82nd	Upgrade	2	$8,941,515	$8,900,000	$0	$0	$8,900,000	$0
Battle Ground	Battle Ground FPIA	NE 144th Ave	NE 92nd	NE 152nd Ave	New Road/Upgrade	2	$11,474,848	$11,500,000	$0	$0	$11,500,000	$0
Battle Ground	Battle Ground (inside current UGA)				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	
Battle Ground	WSDOT	SR-503	119th Street	Battle Ground	Widen to 6 lanes		$80,000,000	$80,000,000	$80,000,000		$0	
Battle Ground	WSDOT	SR-502	I-5	Battle Ground	Upgrade		$50,000,000	$50,000,000	$50,000,000		$0	
Battle Ground	Battle Ground* (outside current UGA)				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
TOTAL							**$194,582,727**	**$197,700,000**	**$130,000,000**	**$4,370,000**	**$45,300,000**	**$18,030,000**
Burnt Bridge Creek												
Burnt Bridge Creek	Burnt Bridge Creek FPIA	So. of NE 59th St.	NE 121st Ave	NE 137th Ave	New Road	2	$3,209,848	$3,200,000	$0	$0	$320,000	$2,880,000
Burnt Bridge Creek	Burnt Bridge Creek FPIA	So. of NE 59th St.	NE 137th Ave	Approx. NE 62nd Ave	New Road	2	$5,217,083	$5,200,000	$0	$0	$520,000	$4,680,000
Burnt Bridge Creek	Burnt Bridge Creek FPIA	NE Ward Rd/147th Ave	NE 4th Plain Blvd	So. of NE 59th St.	New Road	2	$1,869,773	$1,900,000	$0	$0	$190,000	$1,710,000
Burnt Bridge Creek	Burnt Bridge Creek				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
Burnt Bridge Creek	Vancouver/Clark County	62nd Street	162nd Avenue	northeast to SR-500	New Road	2	$4,180,000	$4,200,000	$0	$0	$420,000	$3,780,000
Burnt Bridge Creek	County	NE 59th/62nd Street	NE 122nd Ave	NE 162nd Ave.	New Road	3	$11,400,000	$11,400,000	$0	$0	$1,140,000	$10,260,000
Burnt Bridge Creek	Vancouver/Clark County	162nd Avenue	39th Street	Ward Road	Upgrade	5	$23,750,000	$23,800,000		$11,900,000	$11,900,000	
Burnt Bridge Creek	County	137th Ave	28th	SR-500	Upgrade	2	$6,840,000	$6,800,000			$2,040,000	$4,760,000
TOTAL							**$56,466,705**	**$57,500,000**	**$0**	**$12,100,000**	**$17,330,000**	**$28,070,000**
Columbia Shores												
Columbia Shores	Col. Shores FPIA	Columbia Way extension	Marine Park	Riverside Dr.	New Road	2	$7,600,000	$7,600,000	$0	$1,520,000	$2,280,000	$3,800,000
Columbia Shores	Columbia Shores				Bike/Pedestrian/Nbhd			$500,000		$100,000	$400,000	
TOTAL							**$7,600,000**	**$8,100,000**	**$0**	**$1,620,000**	**$2,680,000**	**$3,800,000**
Discovery Corridor												
Discovery Corridor	Discovery Corridor Area FPIA*	NW 219th	I-5	NW 31st	Extension	3	$8,089,034	$8,100,000	$0	$0	$8,100,000	$0
Discovery Corridor	Discovery Corridor Area FPIA	NE 219th St./SR-502	I-5	NE 10th Ave	Extension/Interchange	5	$8,193,277	$8,200,000	$8,200,000	$0	$0	$0
Discovery Corridor	Discovery Corridor Area FPIA*	NW 209th	I-5	NW 31st	Extension/Overcrossing	2	$12,002,992	$12,000,000	$0	$0	$12,000,000	$0
Discovery Corridor	Discovery Corridor Area FPIA*	NW 209th	NE 10th Ave	NE 29th Ave	Upgrade	2	$3,756,098	$3,800,000	$0	$0	$3,800,000	$0
Discovery Corridor	Discovery Corridor Area FPIA*	NW 9th	NW 199th St	NW 179th St	Upgrade	2	$3,776,970	$3,800,000	$0	$0	$3,800,000	$0

FPIA	City/County (FPIA Name)	Road	From	To	Project Type	No of new Lanes	Total Cost	Rounded	WSDOT	Grant	Local	Private
Discovery Corridor	Discovery Corridor Area FPIA*	Unknown (near Lambert)	NW 209th Ave	NW 219th	New Road	2	$1,784,848	$1,800,000	$0	$0	$1,800,000	$0
Discovery Corridor	Discovery Corridor Area FPIA	NE 10th Ave./(Current SR-502)	NE 189th St	NE Union Road	New Road/Realignment	2	$4,120,265	$4,100,000	$0	$0	$4,100,000	$0
Discovery Corridor	Discovery Corridor Area FPIA*	Unknown	NW 149th St	NW 139th St	New Road	2	$1,861,856	$1,900,000	$0	$0	$1,900,000	$0
Discovery Corridor	Discovery Corridor Area FPIA	NE 149th/150th St	NE 10th Ave	NE 20th Ave	Extension	2	$7,145,758	$7,100,000	$0	$0	$2,130,000	$4,970,000
Discovery Corridor	Discovery Corridor Area FPIA	NE Salmon Creek Ave.	WSU area	NE 50th Ave	Upgrade	3	$12,477,273	$12,500,000	$0	$0	$6,250,000	$6,250,000
Discovery Corridor	Discovery Corridor Area FPIA	NE 20th Ave	NE 154th St	NE 179th St	Extension	2	$5,779,886	$5,800,000	$0	$0	$1,740,000	$4,060,000
Discovery Corridor	Discovery Corridor Area FPIA	NE 29th Ave	NE 179th St	NE 134th St	Upgrade	2	$6,917,727	$6,900,000	$0	$0	$2,070,000	$4,830,000
Discovery Corridor	Discovery Corridor Area FPIA*	I-5 Frontage Roads	179th Street	Ridgefield	New Road	4	$38,000,000	$38,000,000	$7,600,000	$7,600,000	$19,000,000	$3,800,000
Discovery Corridor	County	199th St	NE 10th	NE 29th	Upgrade	2	$3,800,000	$3,800,000	$0		$1,140,000	$2,660,000
Discovery Corridor	County	NE 139th St	Tenny Road	NE 29th Ave	Upgrade plus I-5 xing	3	$17,556,818	$17,600,000	$0	$2,000,000	$10,320,000	$5,280,000
Discovery Corridor	County	NE 29th Ave	NE 109th St	NE 99th St	New Road	3	$2,832,727	$2,800,000	$0	$0	$1,960,000	$840,000
Discovery Corridor	County	NW 209th	NW 31st	Delfel Rd	Upgrade	2	$6,062,008	$6,100,000	$0	$0	$6,100,000	$0
Discovery Corridor	WSDOT	I-5 at 179th Street			Upgrade		$40,000,000	$40,000,000	$28,000,000	$8,000,000	$4,000,000	
Discovery Corridor	WSDOT	I-5 at 219th Street/SR-502			New Interchange		$40,000,000	$40,000,000	$40,000,000		$0	
Discovery Corridor	WSDOT	I-5	I-205	219th	Major upgrade	8 total	$30,000,000	$30,000,000	$30,000,000		$0	
Discovery Corridor*	Discovery Corridor*				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	
Discovery Corridor	C-TRAN	Construct 179th Park-and-Ride					$10,000,000	$10,000,000		$ 5,000,000	$5,000,000	
Discovery Corridor	C-TRAN	219th Street P&R					$8,000,000	$8,000,000	$ 3,200,000	$ 1,600,000	$3,200,000	
Discovery Corridor	County	NE 10th Ave	219th/SR-502	264th/S 5th	Upgrade	2	$8,740,000	$8,700,000	$0	$1,740,000	$6,960,000	
TOTAL							**$280,897,538**	**$283,000,000**	**$117,000,000**	**$26,340,000**	**$106,970,000**	**$32,690,000**
Downtown Vancouver												
Downtown Vancouver	Downtown Vancouver				Bike/Pedestrian/Nbhd			$500,000		$100,000	$400,000	
Downtown Vancouver	Downtown Vancouver	Implement Downtown TSP			Implement Downtown TSP			$3,000,000		$600,000	$2,400,000	
Downtown Vancouver	C-TRAN	Build LRT Loop (Downtown Component)					$100,000,000	$100,000,000		$ 50,000,000	$50,000,000	
TOTAL							**$100,000,000**	**$103,500,000**	**$0**	**$50,700,000**	**$52,800,000**	**$0**
Fisher Swale												
Fisher Swale*	Fisher Swale*				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
Fisher Swale*		192nd Ave.	SE 1st St.	SE 15th St.	Upgrade	5	$9,500,000	$9,500,000	$0	$1,900,000	$2,850,000	$4,750,000
TOTAL							**$9,500,000**	**$10,500,000**	**$0**	**$2,100,000**	**$3,650,000**	**$4,750,000**
Fruit Valley												
Fruit Valley	Fruit Valley FPIA	39th Street extension	Fruit Valley Rd.	26th Ave. extension	New Road	3	$5,700,000	$5,700,000	$0	$0	$2,280,000	$3,420,000
Fruit Valley	Fruit Valley FPIA	26th Ave. extension	39th St. extension	Fourth Plain	New Road	3	$11,400,000	$11,400,000	$0	$0	$4,560,000	$6,840,000
Fruit Valley	Fruit Valley				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	

FPIA	City/County (FPIA Name)	Road	From	To	Project Type	No of new Lanes	Total Cost	Rounded	WSDOT	Grant	Local	Private
TOTAL							**$17,100,000**	**$19,100,000**	**$0**	**$400,000**	**$8,440,000**	**$10,260,000**
La Center Junction												
La Center Junction	La Center FPIA	La Center Road	I-5	E. Fk. Lewis R. Br.	Widen	5	$19,000,000	$19,000,000	$0	$3,800,000	$15,200,000	
La Center*	La Center*				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
La Center Junction	WSDOT	I-5 at La Center interchange			Upgrade		$20,000,000	$20,000,000	$15,000,000		$5,000,000	
La Center Junction	County	NW 319th St	I-5	1/2 mile west	Upgrade	1	$950,000	$1,000,000			$1,000,000	
TOTAL							**$39,950,000**	**$41,000,000**	**$15,000,000**	**$4,000,000**	**$22,000,000**	**$0**
Port of Camas/Washougal												
Port of Camas/Washougal	Washougal	15th Street improvements	Port area	Washougal River Rd.	Upgrade	x	$2,000,000	$2,000,000	$0	$0	$800,000	$1,200,000
Port of Camas/Washougal	WSDOT	SR-14 at 15th Street (Washougal)			Interchange		$20,000,000	$20,000,000	$20,000,000		$0	
Port of Camas/Washougal	Camas	NW 6th Avenue	SR-14	central Camas	Signal coordination		$500,000	$500,000	$0	$0	$200,000	$300,000
Port of Camas/Washougal	Washougal	32nd St./Stiles Rd.	SR-14	UGB	Upgrade	2	$7,600,000	$7,600,000	$0	$0	$3,040,000	$4,560,000
Port of Camas/Washougal	WSDOT	SR-14	Camas	Washougal	Widen to 4 lanes		$20,000,000	$20,000,000	$20,000,000		$0	
Port of Camas/Washougal	Camas/ Washougal				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
TOTAL							**$50,100,000**	**$51,100,000**	**$40,000,000**	**$200,000**	**$4,840,000**	**$6,060,000**
Port of Vancouver												
Port of Vancouver		Lake River Road	Mill Plain Ext.	UGB	Upgrade	5	$14,250,000	$14,300,000	$0	$0	$5,720,000	$8,580,000
Port of Vancouver	Port of Vancouver				Bike/Pedestrian/Nbhd			$500,000		$100,000	$400,000	
TOTAL								**$14,800,000**	**$0**	**$100,000**	**$6,120,000**	**$8,580,000**
Ridgefield Junction												
Ridgefield Junction	Ridgefield*	NE 299th	NW 31st	NE 11th	Extension/Overcrossing	3	$9,060,363	$9,100,000	$0	$0	$6,100,000	$3,000,000
Ridgefield Junction	Ridgefield*	N 10th Street	NW 31st	NE 11th	Extension/Overcrossing	3	$9,060,363	$9,100,000	$0	$0	$4,550,000	$4,550,000
Ridgefield Junction	Ridgefield	Union Ridge Parkway	I-5	NE 10th	Extension	5/3	$4,139,444	$4,100,000	$0	$0	$820,000	$3,280,000
Ridgefield Junction	Ridgefield*	I-5 Frontage Roads E	SR-501	NE 299th	New Road	2	$5,822,348	$5,800,000	$0	$0	$1,160,000	$4,640,000
Ridgefield Junction	Ridgefield*	I-5 Frontage Roads W	SR-501	NE 299th	New Road	2	$6,080,000	$6,100,000	$0	$0	$1,220,000	$4,880,000
Ridgefield Junction	Ridgefield	S 15th St	45th	Union Ridge Pkwy	Extension/Overcrossing	3	$13,459,019	$13,500,000	$2,700,000	$4,050,000	$2,700,000	$4,050,000
Ridgefield Junction	Ridgefield	S 45th Ave	SR-501	Union Ridge Pkwy	Upgrade	3	$4,509,514	$4,500,000	$0	$0	$900,000	$3,600,000
Ridgefield Junction	Ridgefield	N 45th Ave (combined w/S 45th)	SR-501	N 10th	Upgrade	3	$0	$0	$0	$0	$0	$0
Ridgefield Junction	Ridgefield	N & S 51st Ave	N 5th St (new road)	S 15th (new road)	New Road	3	$3,559,404	$3,600,000	$0	$0	$720,000	$2,880,000
Ridgefield Junction	Ridgefield	N 56th Ave	SR-501	N 10th	New Road	3	$1,013,883	$1,000,000	$0	$0	$200,000	$800,000
Ridgefield Junction	Ridgefield	Upgrade Ridgefield Interchange	I-5	SR-501	Upgrade	x	$30,000,000	$30,000,000	$12,000,000	$9,000,000	$7,500,000	$1,500,000
Ridgefield Junction	Ridgefield	SR-501	I-5	Ridgefield	Upgrade	4	$30,400,000	$30,400,000	$18,240,000	$9,120,000	$1,520,000	$1,520,000
Ridgefield Junction	Ridgefield	S. 5th Street	65th Ave.	NE 10th Ave.	Upgrade	3	$5,700,000	$5,700,000	$0	$0	$1,140,000	$4,560,000
Ridgefield Junction	C-TRAN	Expand Ridgefield P&R					$4,000,000	$4,000,000		$ 1,200,000	$2,800,000	

FPIA	City/County (FPIA Name)	Road	From	To	Project Type	No of new Lanes	Total Cost	Rounded	WSDOT	Grant	Local	Private
Ridgefield Junction	WSDOT	I-5	219th Street	Ridgefield	Auxiliary lanes		$40,000,000	$40,000,000	$40,000,000		$0	
Ridgefield Junction	Ridgefield Junction (inside current UGA)				Bike/Pedestrian/Nbhd			$500,000		$100,000	$400,000	
Ridgefield Junction	Ridgefield Junction* (outside current UGA)				Bike/Pedestrian/Nbhd			$1,000,000		$200,000	$800,000	
TOTAL							**$166,804,338**	**$168,400,000**	**$72,940,000**	**$23,670,000**	**$32,530,000**	**$39,260,000**
St. Johns												
St. Johns	County	Andresen/Padden/88th			New Roads		$10,000,000	$10,000,000		$2,000,000	$3,000,000	$5,000,000
St. Johns	St. John's FPIA	St. Johns/NE 72nd Ave.	NE 99th St.	NE 119th St.	Upgrade	5	$14,250,000	$14,300,000	$0	$5,720,000	$8,580,000	$0
St. Johns	St. John's FPIA	NE 58th Ave	NE 78th St	NE 50th Ave	New Road	2	$3,616,477	$3,600,000	$0	$0	$2,520,000	$1,080,000
St. Johns	St. John's FPIA	NE 99th St	NE 50th Ave	NE 88th Ave	New Road	2	$7,159,545	$7,200,000	$0	$1,440,000	$1,440,000	$4,320,000
St. Johns	County	NE 88th St	NE Hwy 99	Andresen Road	New Road/Upgrade	3	$24,062,614	$24,100,000	$0	$0	$12,050,000	$12,050,000
St. Johns	St. Johns				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	
TOTAL							**$59,088,636**	**$61,200,000**	**$0**	**$9,560,000**	**$29,190,000**	**$22,450,000**
Vancouver Mall												
Vancouver Mall	C-TRAN	Build LRT Loop (Van Mall component)					$100,000,000	$100,000,000		$ 50,000,000	$50,000,000	
Vancouver Mall	Vancouver Mall	Vancouver Mall Drive	Andresen	66th Ave.	New Road	2	$2,660,000	$2,700,000	$0	$0	$1,620,000	$1,080,000
Vancouver Mall	Vancouver Mall				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	
TOTAL							**$102,660,000**	**$104,700,000**	**$0**	**$50,400,000**	**$53,220,000**	**$1,080,000**
WSU Industrial Park												
WSU Industrial Park	WSU Industrial Park FPIA*	NE 174th St	NE 29th Ave	NE 50th Ave	New Road	2	$3,810,076	$3,800,000	$0	$0	$1,140,000	$2,660,000
WSU Industrial Park	WSU Industrial Park FPIA*	Circulation Plan and Collectors	TBD	TBD	TBD	X	$5,000,000	$5,000,000	$0	$0	$1,000,000	$4,000,000
WSU Industrial Park	County	NE 179th St	UGB	72nd Ave	Upgrade	4	$12,160,000	$12,200,000	$0		$12,200,000	
WSU Industrial Park	County*	NE 29th Ave.	139th Street	179th Street	Upgrade	2	$7,600,000	$7,600,000	$0	$0	$4,600,000	$3,000,000
WSU Industrial Park	County*	NE 50th Ave.	119th Street	219th Street	Upgrade	5	$47,500,000	$47,500,000	$0	$4,750,000	$42,750,000	$0
WSU Industrial Park*	WSU Industrial Park*				Bike/Pedestrian/Nbhd			$2,000,000		$400,000	$1,600,000	
TOTAL							**$76,070,076**	**$78,100,000**	**$0**	**$5,150,000**	**$63,290,000**	**$9,660,000**
	Road cost per lane mile	$1,900,000										
		$1,900,000										
	Overcrossings	$6,000,000										

* Capital Project elements outside of current UGAs, which are only needed for land use alternatives which extend the UGB to encompass most or all of this FPIA.

APPENDIX A: Tables of Supporting Data

APPENDIX B: Maps